



QUIZZES

Practice Test No. 1



5 Questions



5 min

Topics

Introduction, Modern definition of organic chemistry

[Start Quiz](#)



1/5



5 min



Hint

Q : The vital force theory was rejected by the



J. Berzilius



John Dalton



F.Wholer



Moseley



2/5



5 min



Hint

Q : The chemist who synthesized urea from ammonium cyanate was



Berzelius



Kolbe



Wohler



Lavoisier



3/5



5 min



Hint

Q : Urea belongs to which class of compounds?



Imides



Amines



Amides



Carboxylic acid



4/5



5 min



Hint

Q:

According to the modern definition, organic chemistry is that branch of chemistry which deals with the study of



carbon compounds only



carbohydrates and hydrocarbons



hydrocarbons and their derivatives



carbohydrates and their derivatives



5/5



5 min



Hint

Q : Vital force theory was rejected by



G.N Lewis



F. Wohler



Kekule



Berzellius



Correct



Unattempted



Incorrect



1/5

Q : The vital force theory was rejected by the



J. Berzilius



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F. Wholer



Moseley



Correct



Unattempted



Incorrect



2/5

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Unattempted



Incorrect



4/5

Q:

According to the modern definition, organic chemistry is that branch of chemistry which deals with the study of



carbon compounds only



carbohydrates and hydrocarbons



hydrocarbons and their derivatives



carbohydrates and their derivatives



Correct



Unattempted



Incorrect



5/5

Q · Vital force theory was rejected by



G N Lewis



F Wohler



Kekule



Berzellius

Explanation

In 1828 Frederick Wohler, a German scientist diminished all the old concepts by proving that no vital force is required for the synthesis of organic compounds. They can be prepared artificially.

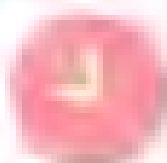


QUIZZES

Practice Test No. 2



5 Questions



5 min

Topics

Coal Petroleum

Start Quiz



1/5



5 min



Hint

Q Which one of the following is a product of destructive distillation of coal



Coke



Coal tar



Coal gas



All of these



2/5



5 min



Hint

Q . Boiling range of kerosene oil is



60–100°C



175–325°C



40–220°C



20–60°C





3/5



5 min



Hint

Q The crude petroleum is separated in fractions by



Filtration



Fractional distillation



Steam distillation



Fractional sublimation





4/5



5 min



Hint

Q The total coal resources of Pakistan estimated by geological survey of Pakistan are



184 billion tones



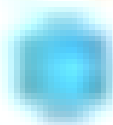
481 billion tones



841 billion tones



In huge reservoirs





5/5



5 min



Hint

Q Petrol and paraffin have been mixed together By which method they can be separated easily



Fractional distillation



Crystallization



Evaporation



Filtration





Correct



Unattempted



Incorrect



1/5

Q Which one of the following is a product of destructive distillation of coal



Coke



Coal tar



Coal gas



All of these

Explanation

Thermal decomposition of coal into coke, coal gas and coal tar at $500-1000^{\circ}\text{C}$ in the absence of air (O_2) is called destructive distillation or carbonization



Correct



Unattempted



Incorrect



2/5

Q Boiling range of kerosene oil is



60–100°C



175–325°C



40–220°C



20–60°C

Explanation

Boiling range of kerosene oil is 175–325°C



Correct



Unattempted



Incorrect



3/5

Q The crude petroleum is separated in fractions by



Filtration



Fractional distillation



Steam distillation



Fractional sublimation

Explanation

The separation of components of a mixture according to their boiling points is called fractional distillation

Petroleum mainly contains alkanes (C-1 to C-40) cycloalkane and benzene but the major component is alkanes which are separated by fractional distillation.



Correct



Unattempted



Incorrect



4/5

Q The total coal resources of Pakistan estimated by geological survey of Pakistan are



184 billion tones



481 billion tones



841 billion tones



In huge reservoirs

Explanation

The coal resources in Pakistan are estimated by the Geological Survey of Pakistan to be 184 billion tonnes. 80% of this coal is used in lime kiln to bake bricks and some for domestic purposes.



Correct



Unattempted



Incorrect



5/5

Q Petrol and paraffin have been mixed together By which method they can be separated easily



Fractional distillation



Crystallization



Evaporation



Filtration

Explanation

The separation of components of a mixture on the base of the there boiling point is called fractional distillation



QUIZZES

Practice Test No. 3



5 Questions



5 min

Topics

General Knowledge | Biology | Chemistry | Physics

petroleum Typ | Environment | Health

Start Quiz



1/5



5 min



Hint

Q

Good quality of petroleum is obtained by



Thermal cracking



Steam cracking



Catalytic cracking



Combustion



2/5



5 min



Hint

Q Higher hydrocarbons can be cracked at low temperature by



Thermal cracking



Catalytic cracking



Steam cracking



All of the above





3/5



5 min



Hint

Q Thermal decomposition of a hydrocarbon in the absence of air is called



oxidation



reduction



cracking



hydrolysis





4/5



5 min



Hint

Q Liquid hydrocarbons are converted to a number of gaseous hydrocarbons by



Distillation



Oxidation



Hydrolysis



Cracking





5/5



5 min



Hint

Q Higher hydrocarbons can be cracked at low temperature by



Thermal cracking



Catalytic cracking



Steam cracking



All of the above





Correct



Unattempted



Incorrect



1/5

Q

Good quality of petroleum is obtained by



Thermal cracking



Steam cracking



Catalytic cracking



Combustion



Correct



Unattempted



Incorrect



2/5

Q Higher hydrocarbons can be cracked at low temperature by



Thermal cracking



Catalytic cracking



Steam cracking



All of the above



Correct



Unattempted



Incorrect



3/5

Q Thermal decomposition of a hydrocarbon in the absence of air is called



oxidation



reduction



cracking



hydrolysis



Correct



Unattempted



Incorrect



4/5

Q Liquid hydrocarbons are converted to a number of gaseous hydrocarbons by



Distillation



Oxidation



Hydrolysis



Cracking



Correct



Unattempted



Incorrect



5/5

Q Higher hydrocarbons can be cracked at low temperature by



Thermal cracking



Catalytic cracking



Steam cracking



All of the above

Explanation

Breaking down of higher hydrocarbons into lower hydrocarbons in the presence of catalyst ($\text{Al}_2\text{O}_3 + \text{SiO}_2$) at lower temperature (500°C) is called catalytic cracking

In the process of cracking, bigger alkane molecules are heated to in the absence of air and in the presence of a mixture of silica (SiO_2) and alumina (Al_2O_3) as a catalyst



Correct



Unattempted



Incorrect



5/5

Q Higher hydrocarbons can be cracked at low temperature by



Thermal cracking



Catalytic cracking



Steam cracking



All of the above

Explanation

Breaking down of higher hydrocarbons into lower hydrocarbons in the presence of catalyst ($\text{Al}_2\text{O}_3 + \text{SiO}_2$) at lower temperature (500°C) is called catalytic cracking

In the process of cracking, bigger alkane molecules are heated to in the absence of air and in the presence of a mixture of silica (SiO_2) and alumina (Al_2O_3) as a catalyst

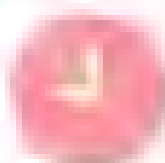


QUIZZES

Practice Test No. 4



4 Questions



5 min

Topics

REFORMING OF PETROLEUM

Start Quiz



1/4



5 min



Hint

Q - Reforming is the process to _____



Increase the quality of fuel



Increase the efficiency of fuel



Decrease the knocking



All of these



2/4



5 min



Hint

Q

Octane number 100 is given to



n-Octane



n Heptane



2, 2, 4 Trimethyl pentane



2, 2, 4-Trimethyl octane





3/4



5 min



Hint

Q The octane number of a poor fuel can also be improved by blending it with small amount of additive like



lead oxide



tetraethyl lead



n-octane



gasoline





4/4



5 min



Hint

Q Tetraethyl lead (C_2H_5)₄Pb is used in gasoline as



promoter



autocatalyst



knock inhibitor



base





Correct



Unattempted



Incorrect



1/4

Q Reforming is the process to



Increase the quality of fuel



Increase the efficiency of fuel



Decrease the knocking



All of these

Explanation

Reforming is the process to Increase the quality of fuel Increase the efficiency of fuel and Decrease the knocking

Incorrect



2/4

Q

Octane number 100 is given to



n-Octane



n-Heptane



2, 2, 4-Trimethyl pentane



2, 2, 4-Trimethyl octane

Explanation

The percentage of branched chain hydrocarbon (Isooctane) in the gasoline fraction of petroleum is called octane number. The quality of gasoline is indicated by its octane number.

- Branched chain hydrocarbons burn smoothly. Hence, have high octane number and make good fuel.
- 2,2,4-Tri-methylpentane or Isooctane burns smoothly and is arbitrarily assigned an octane number 100.

Straight chain hydrocarbons burn rapidly. They have low octane number and make poor fuel. That is why it also causes knocking.



Correct



Unattempted



Incorrect



3/4

Q The octane number of a poor fuel can also be improved by blending it with small amount of additive like



lead oxide



tetraethyl lead



n octane



gasoline

Explanation

Knocking can be minimized by adding Tetraethyl lead in the gasoline. Tetraethyl lead is a negative catalyst for the combustion of gasoline and is an efficient knocking agent.



Correct



Unattempted



Incorrect



4/4

Q Tetraethyl lead (C_2H_5)₄Pb is used in gasoline as



promoter



autocatalyst



knock inhibitor



base

Explanation

Knocking can be minimized by adding Tetraethyl lead in the gasoline. Tetraethyl lead is a negative catalyst for the combustion of gasoline and is an efficient knocking agent.



QUIZZES

Practice Test No. 5



5 Questions



5 min

Topics

CLASSIFICATION OF ORGANIC COMPOUNDS

Start Quiz



1/5



5 min



Hint

Q Which one of the following is heterocyclic compound



Thiophene



Pyrrole



Furan



All of these



2/5



5 min



Hint

Q.

Anthracene contains _____ number of fused benzene rings:



1



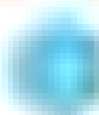
2



3



4





3/5



5 min



Hint

Q . Pyridine is an example of



Homocyclic compound



Heterocyclic compound



Carbocyclic compound



Aliphatic compound





4/5



5 min



Hint

Q Which one of the following is not heterocyclic compound



thophene



anthracene



furan



pyrrole





5/5



5 min



Hint

Q . Thiophene is an example of



Homocyclic compound



Heterocyclic compound



Carbocyclic compound



Aliphatic compound





Correct



Unattempted



Incorrect



1/5

Q Which one of the following is heterocyclic compound



Thiophene



Pyrrole



Furan



All of these



Correct



Unattempted



Incorrect



2/5

Q.

Anthracene contains _____ number of fused benzene rings



1



2



3



4



Correct



Unattempted



Incorrect



3/5

Q Pyridine is an example of



Homocyclic compound



Heterocyclic compound

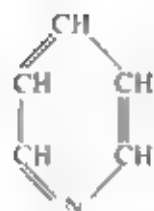


Carbocyclic compound

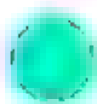


Aliphatic compound

Explanation



Pyridine



Correct



Unattempted



Incorrect



4/5

Q Which one of the following is not heterocyclic compound



thiophene



anthracene



furan



pyrrole



Correct



Unattempted



Incorrect



5/5

Q · Thiophene is an example of



Homocyclic compound



Heterocyclic compound



Carbocyclic compound



Aliphatic compound

Explanation



Thiophene



QUIZZES

Practice Test No. 6



5 Questions



5 min

Topics

FUNCTIONAL GROUP

Start Quiz



1/5



5 min



Hint

Q Select from the following the one which is alcohol

 $\text{CH}_3\text{-CH}_2\text{-OH}$  $\text{CH}_3\text{-O-CH}_3$  CH_3COOH  $\text{CH}_3\text{CH}_2\text{-Br}$

2

3

4

5



2/5



5 min



Hint

Q : -SH functional group is called



Cyano



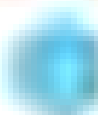
Mercapto



Nitro



Carboxyl





3/5



5 min



Hint

Q . Which of the following is an amide?

 $(\text{NH}_2)_2\text{CO}$  NH_2CH_3  $\text{C}_6\text{H}_5\text{NH}_2$  $\text{N}(\text{CH}_3)_3$ 



4/5



5 min



Hint

Q Select the one of the following which is ketone

 CH_3COCH_3  CH_3-CH_3  $\text{CH}_3\text{CH}_2\text{OH}$  CH_3-Cl 



5/5



5 min



Hint

Q : -SH functional group is called



Cyano



Mercapto



Nitro



Carboxyl





Correct



Unattempted



Incorrect



1/5

Q Select from the following the one which is alcohol

 $\text{CH}_3\text{-CH}_2\text{-OH}$  $\text{CH}_3\text{-O-CH}_3$  CH_3COOH  $\text{CH}_3\text{CH}_2\text{ Br}$



Correct



Unattempted



Incorrect



2/5

Q : -SH functional group is called



Cyano



Mercapto



Nitro



Carboxyl



Correct



Unattempted



Incorrect



3/5

Q · Which of the following is an amide?

 $(\text{NH}_2)_2\text{CO}$  NH_2CH_3  $\text{C}_6\text{H}_5\text{NH}_2$  $\text{N}(\text{CH}_3)_3$

Explanation

 $(\text{NH}_2)_2\text{CO}$ amide NH_2CH_3 Methyl amine $\text{C}_6\text{H}_5\text{NH}_2$ Phenyl amine $\text{N}(\text{CH}_3)_3$ tertiary amine



Correct



Unattempted



Incorrect



4/5

Q Select the one of the following which is ketone



CH_3COCH_3



CH_3-CH_3



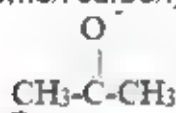
$\text{CH}_3\text{CH}_2\text{OH}$



CH_3-Cl

Explanation

when carbonyl group is attached directly with 2 carbon etonic group





Correct



Unattempted



Incorrect



5/5

Q : -SH functional group is called



Cyano



Mercapto



Nitro



Carboxyl



QUIZZES

Practice Test No. 7



5 Questions



5 min

Topics

Hybridization, sp Hybridization

Start Quiz



1/5



5 min



Hint

Q The state of hybridization of all carbons in 1,3-butadiene is

 sp^3  sp^2  sp  dsp^2



2/5

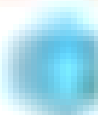


5 min



Hint

Q The type of hybridization of carbon atom in methane is

 sp  sp^2  sp^3  dsp^2 



3/5



5 min



Hint

Q Trigonal planar shape n assoc ated w th the type of hybridization s

 sp  sp^2  sp^3  dsp^2 



4/5



5 min



Hint

Q The percentage of s character in sp^2 hybrid orbital is



25%



33.3%



50%



All are possible





5/5



5 min



Hint

Q In sp -hybridization, the angle between two hybrid orbitals is

 120°  180°  109.5°  90° 



Correct



Unattempted



Incorrect



1/5

Q The state of hybridization of all carbons in 1,3-butadiene is



sp^3



sp^2

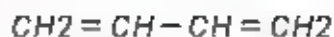


sp



dsp^2

Explanation



1,3 butadiene

In 1,3-butadiene every carbon forms 3 sigma bonds and one π bond so each carbon is sp^2 hybridized.



Correct



Unattempted



Incorrect



2/5

Q The type of hybridization of carbon atom in methane is

 sp  sp^2  sp^3  dsp^2

Explanation

In methane carbon atom forms 4 sigma bonds with 4 different hydrogen atoms.



Correct



Unattempted



Incorrect



3/5

Q Trigonal planar shape is associated with the type of hybridization is



sp



sp^2



sp^3



dsp^2



Correct



Unattempted



Incorrect



4/5

Q The percentage of s character in sp^2 hybrid orbital is



25%



33.3%



50%



All are possible

Explanation

$$\% \text{ of s character} = \frac{1}{3} \times 100 = 33.3\%$$



Correct



Unattempted



Incorrect



5/5

Q In sp -hybridization, the angle between two hybrid orbitals is

 120°  180°  109.5°  90°

Explanation

sp hybridization the shape of hybrid orbital is linear and bond angle is 180°



Practice Test No. 8



Topics

3m geometric isomerism

Quiz



1/5



5 min



Hint

Q

Number of isomers of C_4H_{10} is

1



2



3



4

2

3

4

5



2/5

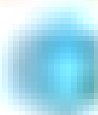


5 min



Hint

Q C_3H_7OH is the functional group isomer of

 CH_3COCH_3  $CH_3OC_2H_5$  CH_3-CH_2-CHO  $(C_2H_5)_2C=O$ 



3/5



5 min



Hint

Q n-hexane and 2-methyl pentane are examples of



Metamerism



Chain isomerism



Functional group isomerism



Position isomerism





4/5



5 min



Hint

Q Which of the following compound may exist as *cis-trans* isomers?



1-Butene



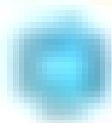
2-Butene



Cyclopropane



Acetone





5/5



5 min



Hint

Q : n-Butanol and diethyl ether are



Geometrical isomers



Position isomers



Chain isomers



Functional group isomers





Correct



Unattempted



Incorrect



1/5

Q.

Number of isomers of C_4H_{10} is



1



2



3



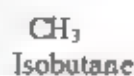
4

Explanation

(i)



(ii) $\text{CH}_3-\text{CH}-\text{CH}_3$





Correct



Unattempted



Incorrect



2/5

Q $\text{C}_3\text{H}_7\text{OH}$ is the functional group isomer of



CH_3COCH_3



$\text{CH}_3\text{OC}_2\text{H}_5$



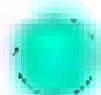
$\text{CH}_3\text{-CH}_2\text{-CHO}$



$(\text{C}_2\text{H}_5)_2\text{C - O}$

Explanation

The compounds that have same molecular formula but differ with respect to functional group are called functional group isomers and phenomenon is called functional group isomerism. Both have same molecular formula which is $\text{C}_3\text{H}_8\text{O}$.



Correct



Unattempted



Incorrect



3/5

Q . n-hexane and 2-methyl pentane are examples of



Metamerism



Chain isomerism



Functional group isomerism



Position isomerism

Explanation

Chain Isomerism or skeletal Isomerism:

The compounds which have same molecular formula but differ with respect to carbon chain (carbon skeleton) are called chain isomers and phenomenon is called chain isomerism



Incorrect



4/5

Q . Which of the fo lowing compound may exist as **c s-trans** isomers?



1 Butene



2-Butene



Cyclopropane



Acetone

Explanation

• Conditions to show geometric isomerism:

(i) There should be a double bond between the two carbon atoms
As a result,

which position of groups become fixed due to restricted rotation

Two groups attached to the same carbon atoms must be different.



Correct



Unattempted



Incorrect



5/5

Q : *n*-Butanol and diethyl ether are



Geometrical isomers



Position isomers



Chain isomers



Functional group isomers

Explanation

Both has same molecular formula which $C_4H_{10}O$ but have different structure due to different functional of group



n-butanol



diethyl ether



QUIZZES

Practice Test No. 9



5 Questions



5 min

Topics

Start Quiz



1/5



5 min



Hint

Q Presence of double bond in an organic compound is the sign of



Saturation



Substitution



Unsaturation



Halogenation



2/5



5 min



Hint

Q All are homocyclic compounds except one



Cyclopropane



Benzene



Naphthalene



Pyridine





3/5



5 min



Hint

Q The presence of double or triple bond in a compound is the sign of



Unsaturation



Saturation



Addition



Substitution





4/5



5 min



Hint

Q If all the valencies of the carbon atoms in a molecule are fully satisfied, then the hydrocarbons are



Alkanes



Unsaturated hydrocarbons



Alkenes



Alkynes





5/5



5 min



Hint

Q All are homocyclic compounds except



Cyclopropane



Benzene



Naphthalene



Pyridine





Correct



Unattempted



Incorrect



1/5

Q Presence of double bond in an organic compound is the sign of



Saturation



Substitution



Unsaturation



Halogenation



Correct



Unattempted



Incorrect



2/5

Q All are homocyclic compounds except one



Cyclopropane



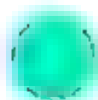
Benzene



Naphthalene



Pyridine



Correct



Unattempted



Incorrect



3/5

Q The presence of double or triple bond in a compound is the sign of



Unsaturation



Saturation



Addition



Substitution



Correct



Unattempted



Incorrect



4/5

Q If all the valences of the carbon atoms in a molecule are fully satisfied, then the hydrocarbons are



Alkanes



Unsaturated hydrocarbons



Alkenes



Alkynes



Correct



Unattempted



Incorrect



5/5

Q All are homocyclic compounds except



Cyclopropane



Benzene

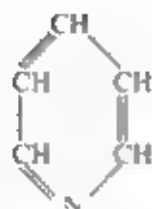


Naphthalene



Pyridine

Explanation



Pyridine



QUIZZES

Practice Test No. 10



3 Questions



5 min

Topics

Alkynes

Start Quiz



1/3



5 min



Hint

Q . Marsh gas is



Ethere



Acetylene



Heptane



Methane



2/3



5 min



Hint

Q The common names of alkenes have the suffix



one



ylene



ey ene



yne



3/3



5 min



Hint

Q . IUPAC name of Vinyl acetylene is



But-3-en-1-yne



But 1-en-3-yne



But 2-en-1-yne



But-1-en-2-yne





Correct



Unattempted



Incorrect



1/3

Q - Marsh gas is



Ethene



Acetylene



Heptane



Methane

Explanation

Methane is found at marshy place due to its called marsh gas



Correct



Unattempted



Incorrect



2/3

Q The common names of alkenes have the suffix



one



ylene



ey ene



yne

Explanation

Suffix use alkene common name is ylene



Correct



Unattempted



Incorrect



3/3

Q · IUPAC name of Vinyl acetylene is



But-3-en-1-yne



But 1-en-3-yne



But 2-en-1-yne



But-1-en-2-yne

Explanation





QUIZZES

Practice Test No. 11



5 Questions



5 min

Topics

methods of preparation - II

Start Quiz



1/5



5 min



Hint

Q The conditions required for the catalytic oxidation of methane to form formic acid are



Cu



400°C



200 atm



All of these



2/5

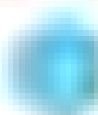


5 min



Hint

Q The alkane which is a solid The alkane which is a solid

 $C_{10}H_{22}$  $C_{16}H_{34}$  C_8H_{18}  $C_{21}H_{44}$ 



3/5



5 min



Hint

Q Which of the following compound is paraffin?



Acetylene



Propane



Ethylene



Benzene





4/5



5 min



Hint

Q Grignard's reagent produce alkane by reacting with



Water



Aldehydes



Ketones



Carbon dioxide





5/5



5 min



Hint

Q Conversion of sodium acetate to methane in the presence of dry soda lime is called.



Carboxylation



Decarboxylation



Dehydration



Hydrogenation





Correct



Unattempted



Incorrect



1/5

Q The conditions required for the catalytic oxidation of methane to form formic acid are



Cu



400°C



200 atm



All of these



Correct



Unattempted



Incorrect



2/5

Q The alkane which is a solid The alkane which is a solid

 $C_{10}H_{22}$  $C_{16}H_{34}$  C_8H_{18}  $C_{21}H_{44}$



Incorrect



3/5

Q : Which of the following compound is paraffin?



Acetylene



Propane



Ethylene



Benzene

Explanation

Alkanes are **saturated** hydrocarbons because four valencies of each carbon atom are satisfied by single bonds either with other carbon atoms or with hydrogen atoms. Alkanes are the simplest organic compounds and **Methane (CH₄)** is the simplest member of the family. Their general formula is **C_nH_{2n+2}**. Alkanes are **saturated** hydrocarbons because four valencies of each carbon atom are satisfied by single bonds either with other carbon atoms or with hydrogen atoms. Alkanes are the simplest organic compounds and **Methane (CH₄)** is the simplest member of the family. Their general formula is **C_nH_{2n+2}**.



Correct



Unattempted



Incorrect



4/5

Q Grignard's reagent produce alkane by reacting with



Water



Aldehydes

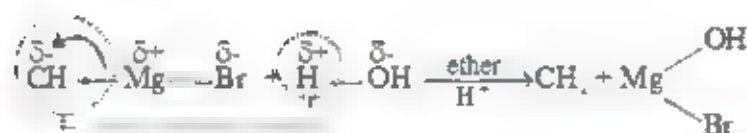


Ketones



Carbon dioxide

Explanation



Q Conversion of sodium acetate to methane in the presence of dry soda lime is called.



Carboxylation



Decarboxylation



Denhydration



Hydrogenation

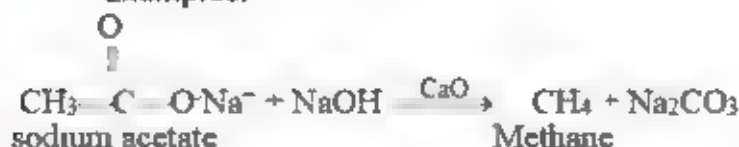
Explanation

(i) Decarboxylation by soda lime

Soda lime is prepared by soaking quick lime (CaO) with Caustic soda (NaOH) solution and finally drying the product

Soda lime eliminates a molecule CO_2 from sodium salts of carboxylic acids when heated with them

Examples:





QUIZZES

Practice Test No. 12



5 Questions



5 min

Topics

Reactions - 1 Uses of methane

Start Quiz



1/5



5 min



Hint

Q The reaction of methane with Cl_2 to form chloroform and carbon tetrachloride is



Addition reaction



Substitution reaction



Oxidation reaction



Combustion reaction

2

3

4

5



2/5

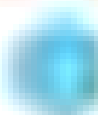


5 min



Hint

Q The order of reactivity of halogens with alkane is

 $I_2 > Br_2 > Cl_2 > F_2$  $F_2 > Cl_2 > Br_2 > I_2$  $Cl_2 > F_2 > Br_2 > I$  $I_2 > F_2 > Cl_2 > Br_2$ 



3/5



5 min



Hint

Q . Formula of chloro Methane is

 CH_3Cl  CCl_4  CH_2Cl_2  CHCl_3 



4/5



5 min



Hint

Q Catalytic oxidation of alkane is done at 400°C and 200atm in the presence of

 Cu  Ag_2O  KMnO_4  Pd / C 



5/5



5 min



Hint

Q . When one is not the use of methane



As an illuminating gas



As an anesthetic agent



Preparation of carbon black



To manufacture urea fertilizer





Correct



Unattempted



Incorrect



1/5

Q The reaction of methane with Cl_2 to form chloroform and carbon tetrachloride is



Addition reaction



Substitution reaction



Oxidation reaction



Combustion reaction



Incorrect



2/5

Q The order of reactivity of halogens with alkane is

 $I_2 > Br_2 > Cl_2 > F_2$  $F_2 > Cl_2 > Br_2 > I_2$  $Cl_2 > F_2 > Br_2 > I$  $I_2 > F_2 > Cl_2 > Br_2$

Explanation

Reactivity of halogens:

- Fluorine reacts with alkane violently and forms a mixture of carbon, fluorinated alkanes and hydrofluoric acid
- Iodine does not substitute directly because reaction is too slow and reversible
- Chlorine and Bromine react in controlled manner and at considerable rate giving appreciable yield of the product
- The reactivity order of halogens is as,





Correct



Unattempted



Incorrect



3/5

Q · Formula of chloro Methane is



CH_3Cl



CCl_4



CH_2Cl_2



CHCl_3



Correct



Unattempted



Incorrect



4/5

Q . Catalytic oxidation of alkane is done at 400°C and 200atm in the presence of



Cu



Ag_2O

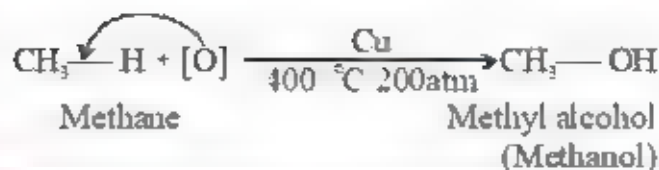


KMnO_4



Pd / C

Explanation



Q : When one is not the use of methane



As an illuminating gas



As an anesthetic agent



Preparation of carbon black



To manufacture urea fertilizer

Explanation

Uses of Methane

Methane is used,

- As a fuel and as an illuminating gas.
- For the preparation of methyl chloride, methylene chloride, chloroform and carbon tetrachloride
- For the industrial preparation of methyl alcohol, formaldehyde and hydrogen cyanide
- For the preparation of carbon black used in paints, printing inks and automobile tyres

To manufacture urea fertilizer



QUIZZES

Practice Test No. 13



5 Questions



5 min

Topics

[Start Quiz](#)



1/5



5 min



Hint

Q

Ozonolysis of ethene causes the breaking of

C – C bond, the product is



Formaldehyde



Acetaldehyde



Ethylene glycol



Ethylene chlorohydrin

2

3

4

5



2/5



5 min



Hint

Q Raney Nickel is obtained by treating Ni-Al alloy with

 KMnO_4  H_2SO_4  NaOH  NH_4OH 



3/5



5 min



Hint

Q Which of the following compound is o efin

 C_2H_6  C_6H_{14}  C_2H_4  C_6H_6 



4/5



5 min



Hint

Q Which one is not a property or use of mustard gas



Used in 1st world war



Powerful vesicant



High boiling liquid



High boiling gas





5/5



5 min



Hint

Q Which of the following compound is olefin?

 C_2H_6  C_6H_{14}  C_2H_4  C_6H_6 



Correct



Unattempted



Incorrect



1/5

Q.

Ozonolysis of ethene causes the breaking of
C – C bond, the product is



Formaldehyde



Acetaldehyde



Ethylene glycol



Ethylene chlorohydrin



Correct



Unattempted



Incorrect



2/5

Q Raney Nickel is obtained by treating Ni-Al alloy with



KMnO_4



H_2SO_4



NaOH



NH_4OH



Correct



Unattempted



Incorrect



3/5

Q Which of the following compound is olefin



C_2H_6



C_6H_{14}



C_2H_4



C_6H_6



Correct



Unattempted



Incorrect



4/5

Q Which one is not a property or use of mustard gas



Used in 1st world war



Powerful vesicant



High boiling liquid



High boiling gas



Correct



Unattempted



Incorrect



5/5

Q Which of the following compound is olefin?



C_2H_6



C_6H_{14}



C_2H_4



C_6H_6



QUIZZES

Practice Test No. 14



5 Questions



5 min

Topics

reactions of Alkenes -

Start Quiz



1/5



5 min



Hint

Q The reaction, used to locate the position of double bond in a kene is



Hydrogenolysis



Ozonolysis



Hydrolysis



Combustion



2/5



5 min



Hint

Q The addition of hypohalous acid in alkene gives



halides



alcohol



halohydrins



halo acids





3/5



5 min



Hint

Q Which one readily give addition reaction with ethene



HI



HBr



HCl



HF





4/5



5 min



Hint

Q . Addition of HBr to propene gives



1-bromopropane



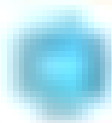
2-bromopropane



Both "a" and "b"



None of these





5/5



5 min



Hint

Q Markownikov's rules is not applicable on



Ethere



Propene



1 Butene



1-Pentene





Correct



Unattempted



Incorrect



1/5

Q The reaction, used to locate the position of double bond in a kene is



Hydrogenolysis



Ozonolysis



Hydrolysis



Combustion



Correct



Unattempted



Incorrect



2/5

Q The addition of hypohalous acid in alkene gives



halides



alcohol



halohydrins



halo acids

Explanation

Addition of hypohalous acid: (HOX)

When halogenations of an alkene is carried out in an aqueous solution, halo alcohol is formed. This is also called a **halohydrin**.



Correct



Unattempted



Incorrect



3/5

Q Which one readily give addition reaction with ethene



HI



HBr



HCl



HF

Explanation

Dry gaseous halogen acid react with alkenes to form alkyl halides.

The order of reactivity of halogen acids is

$\text{HI} > \text{HBr} > \text{HCl}$



Correct



Unattempted



Incorrect



4/5

Q · Addition of HBr to propene gives



1-bromopropane



2 bromopropane



Both "a" and "b"



None of these

Explanation

propene is an unsymmetrical alkene an addition of HBr take place through markownikov's rule



Correct



Unattempted



Incorrect



5/5

Q . Markownikov's rules is not applicable on



Ethene



Propene



1-Butene



1 Pentene

Explanation

Markownikov's Rule:

The negative part of the adding reagent adds to the carbon (constituting a double bond) which has less number of hydrogen atoms. This is called Markownikov's rule. This is only applicable when an **unsymmetrical reagent** is added to an **unsymmetrical alkene**.

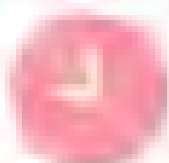


QUIZZES

Practice Test No. 15



5 Questions



5 min

Topics

Alkynes

Phys

1, Acidic nature of alkynes

Start Quiz



1/5



5 min



Hint

Q A white ppt is formed, when ammonical AgNO_3 reacts with



Acetylene



Ethylene



Benzene



Dimethyl acetylene



2/5



5 min



Hint

Q Acetylene has a characteristic ethereal smell resembling that of



Ginger



Vnegar



Garlic



Onion





3/5



5 min



Hint

Q Electrolysis of aqueous solution of potassium salt of maleic acid yields



Ethane



Ethere



Ethyne



Benzene





4/5



5 min



Hint

Q Addition of hydrogen accompanied by a bond cleavage is called



Hydrogenation



Hydrolysis



Hydrogenolysis



Hydroxylation





5/5

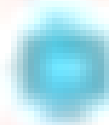


5 min



Hint

Q . The general formula of monoynes s

 C_nH_{2n+2}  C_nH_{2n}  C_nH_{2n-2}  C_nH_{2n-1} 



Correct



Unattempted



Incorrect



1/5

Q A white ppt is formed, when ammonical AgNO_3 reacts with



Acetylene



Ethylene



Benzene



Dimethyl acetylene



Correct



Unattempted



Incorrect



2/5

Q Acetylene has a characteristic ethereal smell resembling that of



Ginger



Vinegar



Garlic



Onion



Incorrect



3/5

Q . Electrolysis of aqueous solution of potassium salt of maleic acid yields



Ethane



Ethene

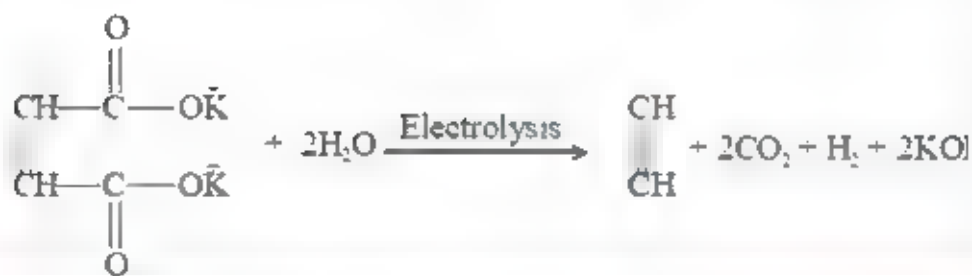


Ethyne



Benzene

Explanation





Correct



Unattempted



Incorrect



4/5

Q Addition of hydrogen accompanied by a bond cleavage is called



Hydrogenation



Hydrolysis



Hydrogenolysis



Hydroxylation



Correct



Unattempted



Incorrect



5/5

Q · The general formula of monoynes is





QUIZZES

Practice Test No. 16



5 Questions



5 min

Topics

aromatic hydrocarbons

Start Quiz



1/5



5 min



Hint

Q Which one of the following compounds is not aromatic?



Phenol



Toluene



Cyclohexane



Benzaldehyde



2/5



5 min



Hint

Q Aromatic hydrocarbons are the derivatives of



Norma series of paraffins



Alkene



Benzene



Cyclohexane





3/5



5 min



Hint

Q Aromatic hydrocarbons are the derivatives of



Norma series of paraffins



Alkene



Benzene



Cyclohexane





4/5



5 min



Hint

Q Which one of the following compounds is polycyclic?



Xylene



Styrene



Toluene



Anthracene





5/5



5 min



Hint

Q The number of possible isomers of xylene are



2



3



4



5





Correct



Unattempted



Incorrect



1/5

Q Which one of the following compounds is not aromatic?



Phenol



Toluene



Cyclohexane



Benzaldehyde

Explanation

Aromatic contain at least one benzene ring



Correct



Unattempted



Incorrect



2/5

Q Aromatic hydrocarbons are the derivatives of



Normal series of paraffins



Alkene



Benzene



Cyclohexane



Correct



Unattempted



Incorrect



3/5

Q Aromatic hydrocarbons are the derivatives of



Normal series of paraffins



Alkene



Benzene



Cyclohexane

Explanation

those hydrocarbon which consist at least one benzene ring are called aromatic compounds



Correct



Unattempted



Incorrect



4/5

Q Which one of the following compounds is polycyclic?



Xylene



Styrene



Toluene



Anthracene

Explanation

Polycyclic Aromatic Hydrocarbon:

Aromatic hydrocarbons containing two or more benzene rings in their molecules are called polycyclic aromatic hydrocarbons.



Incorrect



5/5

Q The number of possible isomers of xylene are



2



3

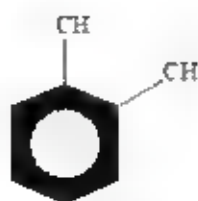


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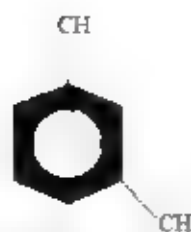


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Explanation



1,2 Dimethylbenzene
(o-xylene)



1,3 Dimethylbenzene
(m-xylene)



1,4 Dimethylbenzene
(p-xylene)



QUIZZES

Practice Test No. 17



5 Questions



5 min

Topics

NOMENCLATURE OF AROMATIC
HYDROCARBON

Start Quiz



1/5



5 min



Hint

Q . Which is the molecular formula of TNT

 $\text{C}_6\text{H}_5(\text{NO}_2)\text{CH}_3$  $\text{C}_6\text{H}_5(\text{NO}_2)_3\text{CH}_3$  $\text{C}_6\text{H}_5(\text{NO}_2)_3\text{C}_2\text{H}_5$  $\text{C}_6\text{H}_5(\text{NO}_2)_3\text{C}_3\text{H}_7$

2

3

4

5



2/5



5 min



Hint

Q One of the following is aromatic hydrocarbon compound



Toluene



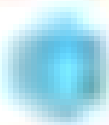
Phenol



Aniline



Chlorobenzene





3/5



5 min



Hint

Q Which one of the following is not an aromatic compound?



Toluene



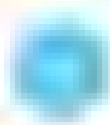
Phenol



Benzene



Maleic anhydride





4/5



5 min



Hint

Q Which one of the following compounds, is not a derivative of benzene?



Aniline



Toluene



Pyridine



Phenol





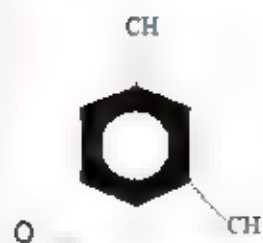
5/5



5 min



Hint



p-xylene



o-xylene



Toluene



m-xylene



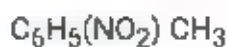


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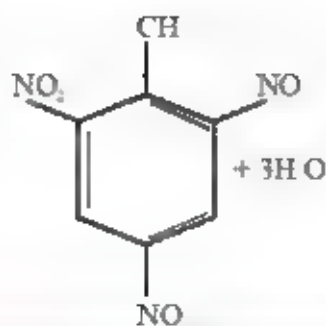


1/5

Q . Which is the molecular formula of TNT



Explanation





Incorrect



2/5

Q One of the following is aromatic hydrocarbon compound



Toluene



Phenol



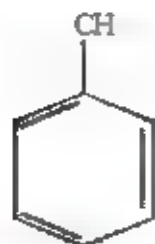
Aniline



Chlorobenzene

Explanation

Because it consist only carbon and hydrogen atom



Incorrect

3/5

Q Which one of the following is not an aromatic compound?

Toluene

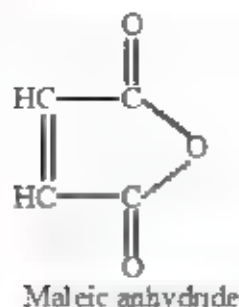
Phenol

Benzene

Maleic anhydride

Explanation

aromatic compounds contains at least one benzene in their structure



Incorrect

4/5

Q Which one of the following compounds, is not a derivative of benzene?

Aniline

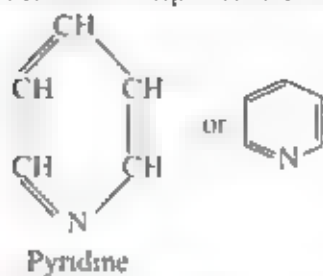
Toluene

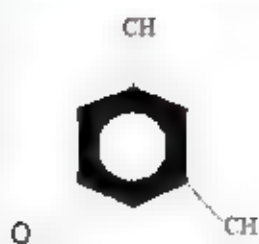
Pyridine

Phenol

Explanation

aromatic compounds contains at least one benzene ring





p-xylene



o-xylene

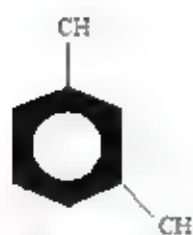


Toluene



m-xylene

Explanation





QUIZZES

Practice Test No. 18



5 Questions



5 min

Topics

ruled out Kek structure

Start Quiz



1/5



5 min



Hint

Q . The structure of benzene is



Hexagonal irregular



Tetrahedral



Trigonal planar



Hexagonal planar



2/5



5 min



Hint

Q Kekule structure of benzene does not justify



Three double bonds in the ring



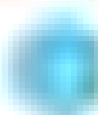
Hexagonal planar ring



Delocalized π -electrons



Unsaturation of benzene





3/5



5 min



Hint

Q . Benzene ring is stabilized by



Hydration energy



Hydrogenation



Resonance energy



All of these





4/5



5 min



Hint

Q Benzene gives how many disubstituted products



3



2



1



4





5/5



5 min



Hint

Q Aromatic hydrocarbons have high % age of



H



C



O



N





Correct



Unattempted



Incorrect



1/5

Q · The structure of benzene is



Hexagonal irregular



Tetrahedral



Trigonal planar



Hexagonal planar



Correct



Unattempted



Incorrect



2/5

Q Kekule structure of benzene does not justify



Three double bonds in the ring



Hexagonal planar ring

Delocalized π - electrons

Unsaturation of benzene



Correct



Unattempted



Incorrect



3/5

Q · Benzene ring is stabilized by



Hydration energy



Hydrogenation



Resonance energy



All of these

Q Benzene gives how many disubstituted products



3



2



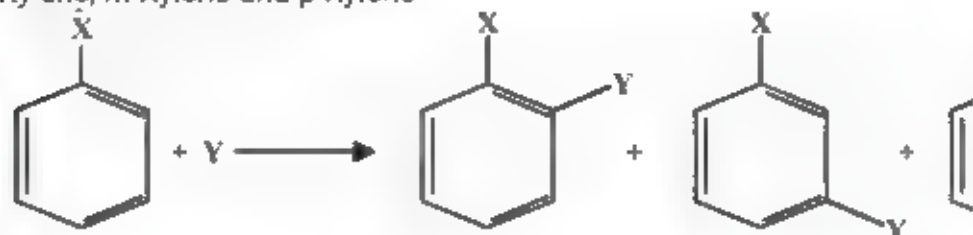
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4

Explanation

Benzene gives three isomeric disubstituted products having general formula $C_6H_4X_2$ or C_6H_4XY , e.g. there are three isomeric Xylene i.e. o-Xylene, m-Xylene and p-Xylene





Correct



Unattempted



Incorrect



5/5

Q Aromatic hydrocarbons have high % age of



H



C



O



N

Explanation

In aromatic there maximum percentage of carbon atom as compared to other compound



QUIZZES

Practice Test No. 19



5 Questions



5 min

Topics

1. Naming of benzene 2. Resonance method 3. Electrophilic substitution

of benzene Resonance method

Start Quiz



1/5



5 min



Hint

Q Hexagonal structure of benzene was confirmed by



X-ray



Cathode rays



Cana rays



Alpha rays



2/5

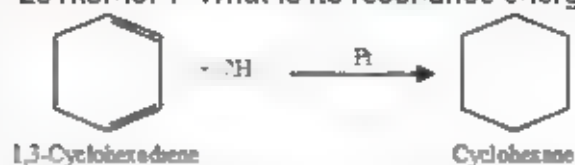


5 min



Hint

Q.
For cyclohexene, heat of hydrogenation is $-119.5 \text{ kJ mol}^{-1}$ while experimental value of heat of hydrogenation for the following reaction -231 kJ mol^{-1} . What is its resonance energy

 $150.5 \text{ kJ mol}^{-1}$  231 kJ mol^{-1}  7.5 kJ mol^{-1}  $-119.5 \text{ kJ mol}^{-1}$ 



3/5



5 min



Hint

Q Which one of the following compounds has resonance structures?

 C_6H_{12}  C_6H_6  C_6H_{14} 

All of these





4/5



5 min



Hint

Q X-Rays studies show that benzene has a planar cyclic regular



hexagonal uniform structure



Tetrahedral



Triangular planer



Pentagonal





5/5



5 min



Hint

Q On hydrogenation benzene liberates energy



358.5 kJ/mole



208 kJ/mole



272 kJ/mole



145.9 kJ/mole





Correct



Unattempted



Incorrect



1/5

Q Hexagonal structure of benzene was confirmed by



X-ray



Cathode rays



Cana rays

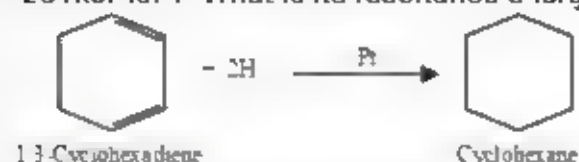


Alpha rays

Explanation

X-Rays studies show that benzene has a planar cyclic regular hexagonal uniform structure and all the angles are of 120° . The C-C bond length is 1.397\AA and C-H bond length is 1.09\AA .

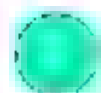
Q:
For cyclohexene, heat of hydrogenation is $-119.5 \text{ kJ mol}^{-1}$ while experimental value of heat of hydrogenation for the following reaction is -231 kJ mol^{-1} . What is its resonance energy?



$150.5 \text{ kJ mol}^{-1}$



231 kJ mol^{-1}



7.5 kJ mol^{-1}



$119.5 \text{ kJ mol}^{-1}$

Explanation

Theoretical value = -239 kJ/mole

Experimental value = -231.5 kJ/mole

Difference = 7.5 kJ/mole (resonance energy)

Incorrect



3/5

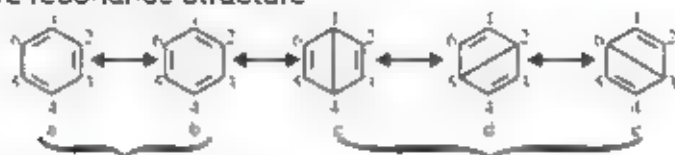
Q Which one of the following compounds has resonance structures?

 C_6H_{12}  C_6H_6  C_6H_{14} 

All of these

Explanation

C_6H_6 is a molecular formula of benzene and it consists of three alternative double bond and single bonds that's why benzene consists of five resonance structures



Kekule's Structures
Major Contributor (80%)
to the real structure of benzene

Dewar's Structures
Minor Contributor (20%)
to the real structure of benzene



Correct



Unattempted



Incorrect



4/5

Q X-Rays studies show that benzene has a planar cyclic regular



hexagonal uniform structure



Tetrahedral



Triangular planer



Pentagonal

Explanation

X-Rays studies show that benzene has a planar cyclic regular hexagonal uniform structure and all the angles are of 120° . The C-C bond length is 1.397 \AA and C-H bond length is 1.09 \AA .

Q On hydrogenation benzene liberates energy



358.5 kJ/mole



208 kJ/mole



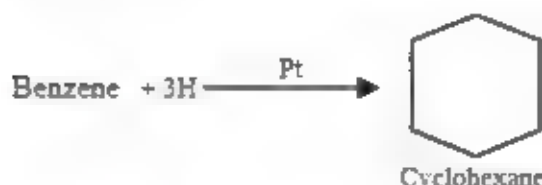
272 kJ/mole



145.9 kJ/mole

Explanation

Theoretical value = -358.5 kJ/mole (calculated heat of hydrogenation)



Experimental value = 208.0 kJ/mole (observed heat of hydrogenation)

Difference = 150.5 kJ/mole (resonance energy)

When the results are represented by the following figure, it becomes clear that the benzene is much more stable than what we expected according to calculation



QUIZZES

Practice Test No. 20



5 Questions



5 min

Topics

Preparation of benzene - I, Preparation of
benzene - II

Start Quiz



1/5



5 min



Hint

Q Benzene is prepared from cyclohexane by the process called



Hydrogenation



Dehydration



Dehydrogenation



Hydration



2/5



5 min



Hint

Q Amongst the following, the compound that can be most actively sulphonated



Toluene



Benzene



Nitrobenzene



Chlorobenzene





3/5



5 min



Hint

Q . Wurtz Fittig Reaction yields



Halo benzene



Methyl benzene



Alkyl benzene



Cyclohexane





4/5

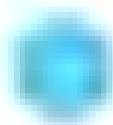


5 min



Hint

Q The hydrolysis of benzene sulphonic acid by boiling with _____ to give benzene

 HCl  AlCl_3  H_2SO_4  HNO_3 



5/5



5 min



Hint

Q . Benzene can be extracted from



Vegetable oil



Coal tar



Animal fat



Both a & b





Correct



Unattempted



Incorrect



1/5

Q Benzene is prepared from cyclohexane by the process called



Hydrogenation



Dehydration



Dehydrogenation



Hydration

Explanation

Removal of hydrogen is called dehydrogenation. Cyclohexane contains (C_6H_{12}) and by dehydrogenation six hydrogen atoms are removed and three double bonds are formed.



Correct



Unattempted



Incorrect



2/5

Q Amongst the following, the compound that can be most actively sulphonated



Toluene



Benzene



Nitrobenzene



Chlorobenzene



Incorrect



3/5

Q · Wurtz Fittig Reaction yields



Halo benzene



Methyl benzene

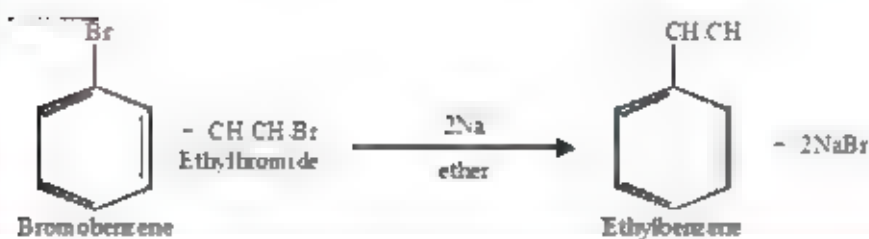


Alkyl benzene



Cyclohexane

Explanation





Incorrect



4/5

Q The hydrolysis of benzene sulphonic acid by boiling with _____ to give benzene



HCl



AlCl₃



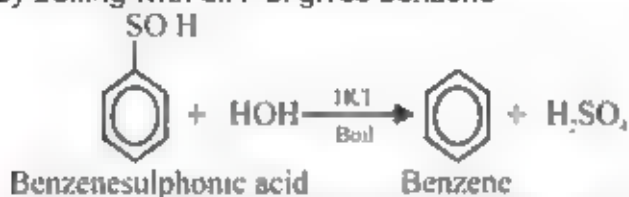
H₂SO₄



HNO₃

Explanation

The hydrolysis of benzene sulphonic acid with superheated steam or by boiling with dil HCl gives benzene





Correct



Unattempted



Incorrect



5/5

Q - Benzene can be extracted from



Vegetable oil



Coal tar



Animal fat



Both a & b

Explanation

Benzene was discovered by "Micheal Faraday in 1825 in the gas produced by the destructive distillation of vegetable oil and twenty years later (in 1845) it was also found in Coa tar by Hoffmann



QUIZZES

Practice Test No. 21



5 Questions



5 min

Topics

Start Quiz



1/5



5 min



Hint

Q During nitration of benzene, the active nitrating agent is

 NO_3  NO_2^+  NO_2^-  HNO_3



2/5



5 min



Hint

Q The nitration of benzene takes place, when it is heated with _____ mixture of conc HNO_3 and conc H_2SO_4 at $50-55^\circ\text{C}$



1:2



2:1



1:3



1:1





3/5



5 min



Hint

Q The electrophile in aromatic sulphonation is

 H_2SO_4  HSO_4^-  SO_3  SO_3^+ 



4/5



5 min



Hint

Q . Benzene cannot undergo



Substitution reactions



Addition reactions



Oxidation reactions



Elimination reaction





5/5



5 min



Hint

Q The electrophile among the following is

 NH_3  AlCl_3  SO_3 

Both





Correct



Unattempted



Incorrect



1/5

Q During nitration of benzene, the active nitrating agent is

 NO_3  NO_2^+  NO_2^-  HNO_3

Explanation

Sulphuric acid reacts with nitric acid to generate nitronium ion electrophile





Correct



Unattempted



Incorrect



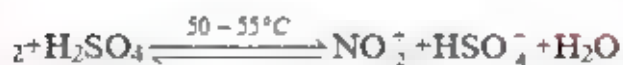
1/5

Q During nitration of benzene, the active nitrating agent is

 NO_3  NO_2^+  NO_2  HNO_3

Explanation

With nitric acid to generate nitronium ion (NO_2^+) which act as a



Q The nitration of benzene takes place, when it is heated with mixture of conc. HNO_3 and conc H_2SO_4 at $50-55^\circ\text{C}$



1:2



2:1



1:3

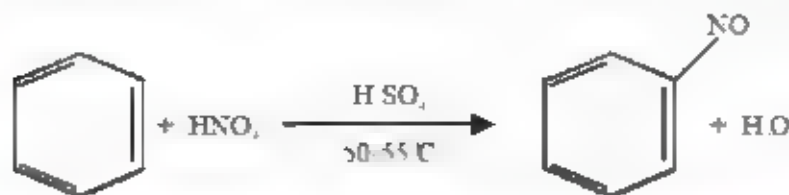


1:1

Explanation

Nitration:

The substitution of hydrogen atom by nitro group ($-\text{NO}_2$) in benzene is called **Nitration**. The nitration of benzene takes place, when it is heated with 1:1 mixture of conc. HNO_3 and conc H_2SO_4 at $50-55^\circ\text{C}$.





Incorrect



3/5

Q The electrophile in aromatic sulphonation is



H_2SO_4



HSO_4^-

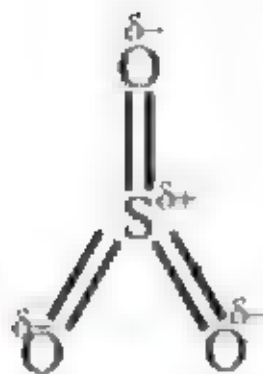


SO_3



SO_3^+

Explanation





Correct



Unattempted



Incorrect



4/5

Q - Benzene cannot undergo



Substitution reactions



Addition reactions



Oxidation reactions



Elimination reaction



Correct



Unattempted



Incorrect



5/5

Q The electrophile among the following is

 NH_3  AlCl_3  SO_3 

Both

Explanation

SO_3 use as electrophile in sulphonation and AlCl_3 use as electrophile in friedel-Crafts reaction



QUIZZES

Practice Test No. 22



5 Questions



5 min

Topics

Genetics | Biochemistry | Microbiology | Immunology | Pathology

Ozonolytic

Start Quiz



1/5



5 min



Hint

Q

Which of the following acid can be used as a catalyst in Friedel-Crafts reactions?

 AlCl_3  HNO_3  BeCl_2  NaCl



2/5



5 min



Hint

Q . Ozonolysis of benzene give



Glycol



Carbon dioxide + water



Glyoxal



Ethanol





3/5



5 min



Hint

Q When benzene is reacted with acetyl chloride in the presence of AlCl_3 to produce _____



Toluene



Acetophenone



Aniline



Benzaldehyde





4/5



5 min



Hint

Q . Electrophile among the following is

 NH_3  H_2O  AlCl_3  Cl_2 



5/5



5 min



Hint

Q The benzene ring is oxidized to maleic anhydride when strongly heated with



Ni/200°C

V₂O₅/450°CAlCl₃/150°C

Pt/250°C





Correct



Unattempted



Incorrect



1/5

Q

Which of the following acid can be used as a catalyst in Friedel-Crafts reactions?

 AlCl_3  HNO_3  BeCl_2  NaCl

Explanation

The substitution of hydrogen of the benzene ring by an alkyl group is called Friedel-Crafts Alkylation. In this reaction, benzene reacts with alkyl halide in the presence of a catalyst AlCl_3 .



Correct



Unattempted



Incorrect



2/5

Q - Ozonolysis of benzene give



Glycol



Carbon dioxide + water



Glyoxal



Ethanol

Explanation

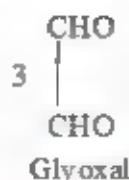


+ 3O₃



C₆H₆O₆

3H₂O



Glyoxal

Benzene triozonide





.....



.....



Incorrect



3/5

Q When benzene is reacted with acetyl chloride in the presence of $AlCl_3$ to produce _____



Toulene



Acetophenone

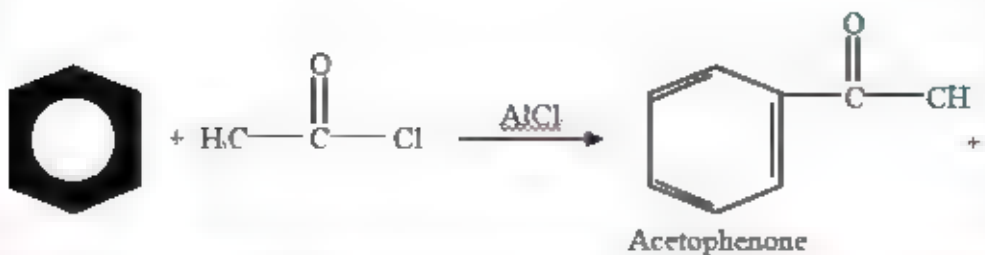


Aniline



Benzaldehyde

Explanation





Correct



Unattempted



Incorrect



4/5

Q Electrophile among the following is



NH_3



H_2O



AlCl_3



Cl_2

Explanation

Aluminium has 6 electron in its outer most shell. So it is electron deficient.

Incorrect

5/5

Q The benzene ring is oxidized to maleic anhydride when strongly heated with

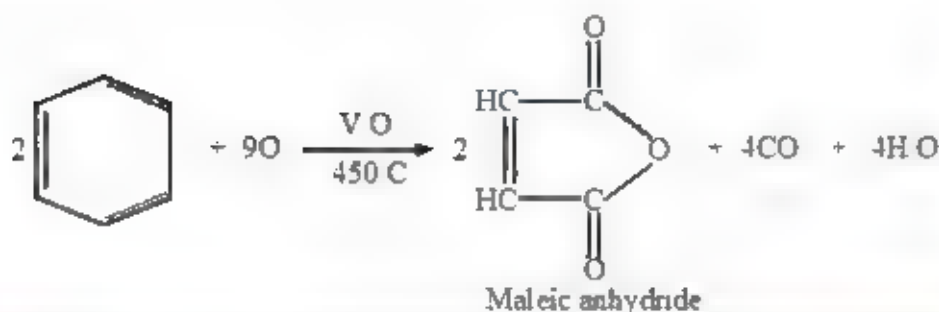
Ni/200°C

V₂O₅/450°C

AlCl₃/150°C

Pt/250°C

Explanation





QUIZZES

Practice Test No. 23



5 Questions



5 min

Topics

Cell Biology Biochemistry Microbiology Immunology Pathology

directing groups

Start Quiz



1/5



5 min



Hint

Q Ortho, para derivatives are obtained by halogenations of



Nitrobenzene



Toluene



Benzaldehyde



Benzene



2/5



5 min



Hint

Q Amongst the following, the compound that can be most readily sulphonated is



Toluene



Benzene



Nitrobenzene



Chlorobenzene





3/5



5 min



Hint

Q The example of meta directing group is



OH

 $-\text{OCH}_3$  $-\text{Br}$  $-\text{COOH}$ 



4/5



5 min



Hint

Q Which of following cannot give meta di substituted product.



Nitrobenzene



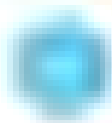
Benzoic acid



Aniline



Benzaldehyde





5/5



5 min



Hint

Q The catalytic hydrogenation of benzene yields



Xylene



Toluene



Benzoic acid



Cyclohexane





Incorrect



1/5

Q : Ortho, para derivatives are obtained by halogenations of



Nitrobenzene



Toluene



Benzaldehyde



Benzene

Explanation

In Toluene methyl group is an ortho para directing group this group release electrons to the benzene ring thereby facilitating the availability of electrons to the electrophiles at ortho and para positions.

This results in the increased chemical reactivity of benzene ring towards electrophiles. The benzene ring can offer more than one positions (ortho and para) to the new incoming groups. These groups are called ortho and para directing groups.



Correct



Unattempted



Incorrect



2/5

Q Amongst the following, the compound that can be most readily sulphonated is



Toluene



Benzene



Nitrobenzene



Chlorobenzene



Correct



Unattempted



Incorrect



3/5

Q The example of meta directing group is



$-OH$



$-OCH_3$



$-Br$



$-COOH$

Explanation

$-COOH$ in carboxyl group carbon attached to benzene ring further attach with highly electronegative oxygen atoms which make carbon electron deficient so it will direct upcoming group to meta position.



Correct



Unattempted



Incorrect



4/5

Q Which of following cannot give meta di - substituted product.



Nitrobenzene



Benzoic acid



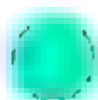
Aniline



Benzaldehyde

Explanation

Amino group is electron donating group substitution group will be at ortho and para position.



Correct



Unattempted



Incorrect



5/5

Q The catalytic hydrogenation of benzene yields



Xylene



Toluene



Benzoic acid



Cyclohexane



QUIZZES

Practice Test No. 24



5 Questions



5 min

Topics

Alkenes and Benzene

ALKENES AND BENZENE

Start Quiz



1/5



5 min



Hint

Q Benzene is highly stable and does not undergo



Polymerization



Hydroxy at ion



Elim nation



All of the above



2/5



5 min



Hint

Q Benzene is least reactive than ethene due to



Three alternate of three double bond in benzene



Close structure



Sp^2 hybridization of carbon in benzene ring



Conjugation in benzene



3/5



5 min



Hint

Q Which compound is the most reactive one



Benzene



Ethene



Ethane



Ethyne





4/5



5 min



Hint

Q Which compound is the most reactive one



Benzene



Ethyne



Ethene



Ethane





5/5



5 min



Hint

Q In the given compounds the least reactive one is



Benzene



Ethene



Ethane



Ethyne





Correct



Unattempted



Incorrect



1/5

Q Benzene is highly stable and does not undergo



Polymerization



Hydroxylation



Elimination



All of the above



Correct



Unattempted



Incorrect



2/5

Q Benzene is least reactive than ethene due to



Three alternate of three double bond in benzene



Close structure



Sp^2 hybridization of carbon in benzene ring



Conjugation in benzene



Correct



Unattempted



Incorrect



3/5

Q Which compound is the most reactive one



Benzene



Ethene



Ethane



Ethyne



Correct



Unattempted



Incorrect



4/5

Q Which compound is the most reactive one



Benzene



Ethyne



Ethene



Ethane



Correct



Unattempted



Incorrect



5/5

Q In the given compounds the least reactive one is



Benzene



Ethene



Ethane



Ethyne

Explanation

Alkanes are unreactive class of compounds and their unreactivity is due to their non-polar nature and inertness of But they undergo substitution reaction relatively easily involving free radicals



QUIZZES

Practice Test No. 25



5 Questions



5 min

Topics

Organic Chemistry | Inorganic Chemistry | Biochemistry | General Chemistry | Physics

ALKYL HALIDES

Start Quiz



1/5



5 min



Hint

Q In primary alkyl halides the halogen atom is attached to a carbon which is further attached to how many carbon atoms



Four



Three



Two



One



2/5



5 min



Hint

Q For which mechanisms, the first step involved is same



E1 and E2

E2 and S_N2  S_N1 and E2E1 and S_N1 



3/5

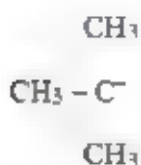
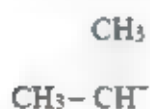


5 min



Hint

Q Which one of the following carbocation is the most stable carbocation?





4/5



5 min



Hint

Q _____ is derivatives of alkanes are called alkyls halides



Monohalo



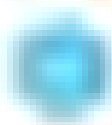
Dihalo



Trihalo



All of these





5/5



5 min



Hint

Q. The 2-Chlorobutane is derived from



n-Butane



Isobutane



Methylbutane



2-methylbutane



Q In primary alkyl halides the halogen atom is attached to a carbon which is further attached to how many carbon atoms



Four



Three



Two



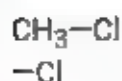
One

Explanation

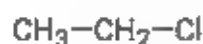
(i) Primary Alkyl Halides:

In primary alkyl halides, the halogen atom is attached with a carbon which is further attached to one carbon or no carbon atom

Example:



Chloromethane
Chloropropane



Chloroethane



1-



Correct



Unattempted



Incorrect



2/5

Q For which mechanisms, the first step involved is same



E1 and E2



E2 and S_N2



S_N1 and E2



E1 and S_N1



Correct



Unattempted

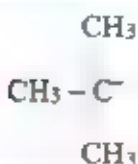
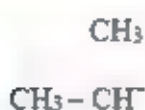


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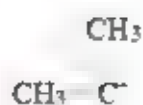


3/5

Q Which one of the following carbocation is the most stable carbocation?



Explanation



1 2 (3) 4 5



Correct



Attempted

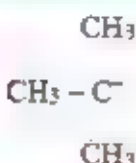
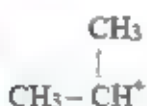


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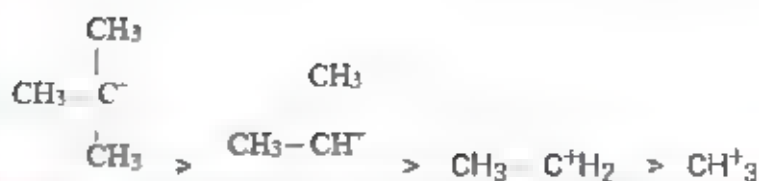


3/5

Q Which one of the following carbocation is the most stable carbocation?



Explanation



Q. _____ is derivatives of alkanes are called alkyls halides



Monohalo



Di-halo



Trihalo



All of these

Explanation

Alkyl Halides:

Mono-halo alkanes are called alkyl halides

General Formula:

The general formula is RX where $-R$ may be methyl, ethyl, propyl etc while X represents halogen atom (F, Cl, Br, I)

Classification of Alkyl Halides:

Alkyl halides are classified on the basis of nature of carbon atom to which halogen atom is attached

(I) Primary Alkyl Halides:

In primary alkyl halides, the halogen atom is attached with a carbon which is further attached to one carbon or no carbon atom



All of these

Explanation

Alkyl Halides:

Mono-halo-alkanes are called alkyl halides

General Formula:

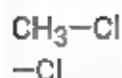
The general formula is RX where $-R$ may be methyl, ethyl, propyl etc. while X represents halogen atom (F, Cl, Br, I).

Classification of Alkyl Halides:

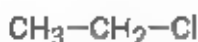
Alkyl halides are classified on the basis of nature of carbon atom to which halogen atom is attached

(i) Primary Alkyl Halides:

In primary alkyl halides, the halogen atom is attached with a carbon which is further attached to one carbon or no carbon atom.



Chloromethane
Chloropropane



Chloroethane



1-

(ii) Secondary Alkyl Halides:

In secondary alkyl halides, the halogen atom is attached with a carbon which is further attached to two carbon atoms

In tertiary alkyl halides, the halogen atom is attached with a carbon which is further attached to three carbon atoms.



Correct



Unattempted



Incorrect



5/5

Q · The 2-Chlorobutane is derived from



n-Butane



isobutane



Methylbutance



2-methy butane

Explanation

1 hydrogen from butane is replaced by chlorine then it is called chloro butane

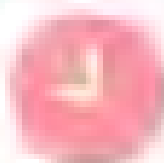


QUIZZES

Practice Test No. 26



5 Questions



5 min

Topics

names

Start Quiz



1/5



5 min



Hint

Q . The correct name of CH_3Cl is



Methyl chloride



Methylene chloride



Chloroform



Carbon dichloride



2/5



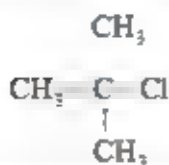
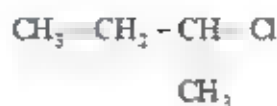
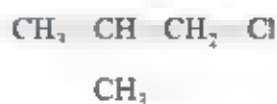
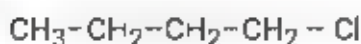
5 min



Hint

Q

Which of following is correct structure of Isobutyl chloride





3/5



5 min



Hint

Q . The formula of tetrabromomethane is

 CCl_4  CBr_4  $(\text{CH}_3)_2\text{CHBr}$  CH_2Br_2 



4/5

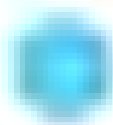
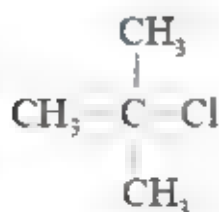
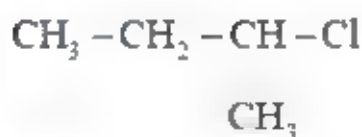
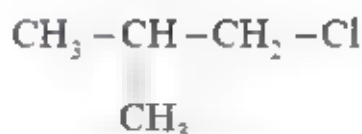
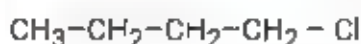


5 min



Hint

Q Which of following is correct structure of isobutyl chloride





5/5



5 min



Hint

Q . The formula of tetrabromomethane is

 CCl_4  CBr_4  $(\text{CH}_3)_2\text{CHBr}$  CH_2Br_2 



Correct



Unattempted



Incorrect



1/5

Q · The correct name of CH_3Cl is



Methyl chloride



Methylene chloride



Chloroform



Carbon dichloride



Correct



Unattempted



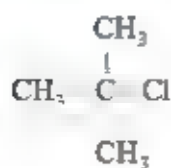
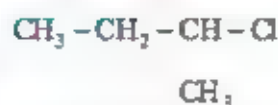
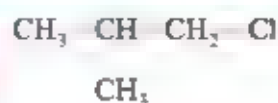
Incorrect



2/5

Q.

Which of following is correct structure of isobutyl chloride





Correct



Unattempted



Incorrect



3/5

Q The formula of tetrabromomethane is



CCl_4



CBr_4



$(\text{CH}_3)_2\text{CHBr}$



CH_2Br_2



Correct



Unattempted

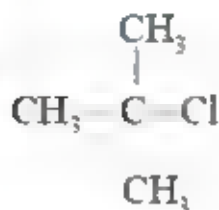
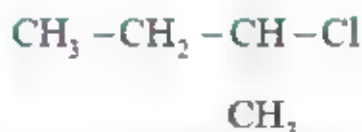
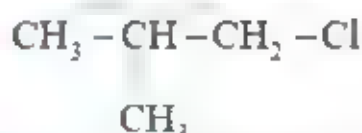
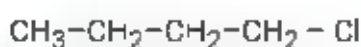


Incorrect



4/5

Q Which of following is correct structure of isobutyl chloride





Correct



Unattempted



Incorrect



5/5

Q The formula of tetrabromomethane is

 CCl_4  CBr_4  $(\text{CH}_3)_2\text{CHBr}$  CH_2Br_2

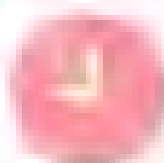


QUIZZES

Practice Test No. 27



5 Questions



5 min

Topics

MCQ | Multiple Choice | Essay | Short Answer | True or False | Fill in the Blanks

Start Quiz



1/5



5 min



Hint

Q Alkyl halides are prepared by reacting alcohols with

 S_2Cl_2  $ZnCl_2$  PCl_3  $PbCl_2$



2/5



5 min

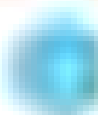


Hint

Q Which of the following cannot be obtained by the direct combination of alkane with X_2

 $R-Cl$  $R-Br$  $R-I$ 

All can be prepared





3/5



5 min



Hint

Q Alkyl halides are prepared by reacting alcohols with

 $\text{SOCl}_2/\text{Pyridine}$  ZnCl_2/HX  PCl_3 

All





4/5



5 min



Hint

Q Which of the following cannot be obtained by the direct combination of alkane with X_2

 $R-Cl$  $R-Br$  $R-I$ 

All can be prepared





5/5



5 min



Hint

Q Ethene reacts with halogen acids to form alkyl halide. The process is known as



Halogenation



Hydrohalogenation



Hydrogenation



Dehydrohalogenation





Correct



Unattempted



Incorrect



1/5

Q Alkyl halides are prepared by reacting alcohols with

 S_2Cl_2  $ZnCl_2$  PCl_3  $PbCl_2$

Explanation





Incorrect



2/5

Q Which of the following cannot be obtained by the direct combination of alkane with X_2



$R-Cl$



$R-Br$



$R-I$



All can be prepared

Explanation

Preparation of Alkyl iodides:

Alkyl iodides cannot be prepared by the direct iodination of alkanes. So, an excellent method for the preparation of simple alkyl iodide is the treatment of alkyl chloride or alkyl bromide with sodium iodide





Correct



Unattempted



Incorrect



3/5

Q Alkyl halides are prepared by reacting alcohols with



$\text{SOCl}_2/\text{Pyridine}$



ZnCl_2/HX



PCl_3



All



Correct



Unattempted



Incorrect



4/5

Q Which of the following cannot be obtained by the direct combination of alkane with X_2

 $R-Cl$  $R-Br$  $R-I$ 

All can be prepared



Correct



Unattempted



Incorrect



5/5

Q Ethene reacts with halogen acids to form alkyl halide. The process is known as



Halogenation



Hydrohalogenation



Hydrogenation



Dehydrohalogenation



QUIZZES

Practice Test No. 28



5 Questions



5 min

Topics

REACTIVITY OF ALKYL HALIDES
order on basis on bond polarity

[Start Quiz](#)



1/5



5 min



Hint

Q Which of the following is most reactive?

 $\text{C}_2\text{H}_5\text{F}$  $\text{C}_2\text{H}_5\text{Cl}$  $\text{C}_2\text{H}_5\text{Br}$  $\text{C}_2\text{H}_5\text{I}$



2/5



5 min



Hint

Q The alkyl halide which has lowest bond energy is



R - F



R - Cl



R - Br



R - I





3/5



5 min



Hint

Q In β - elimination reaction, nucleophile attacks on

 α -hydrogen β -hydrogen γ -hydrogen

None of these





4/5



5 min



Hint

Q $\text{CH}_3\text{CH}_2\text{Br} + \text{CH}_3\text{O}^- \longrightarrow$ Product-I + Product-II

The product-I and II are respectively



$\text{CH}_3\text{CH}_2\text{OCH}_3 + \text{OH}^-$



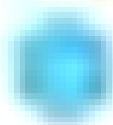
$\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ and Br^-



$\text{CH}_3\text{OCH}_3 + \text{Br}^-$



$\text{CH}_3\text{CH}_2\text{OCH}_3$ and Br^-





5/5



5 min



Hint

Q . The bond energy of C-Br is

467 kJmol^{-1} 413 kJmol^{-1} 346 kJmol^{-1} 290 kJmol^{-1} 



Correct



Unattempted



Incorrect



1/5

Q Which of the following is most reactive?



$\text{C}_2\text{H}_5\text{-F}$



$\text{C}_2\text{H}_5\text{-Cl}$



$\text{C}_2\text{H}_5\text{-Br}$



$\text{C}_2\text{H}_5\text{-I}$



Correct



Unattempted



Incorrect



2/5

Q The alkyl halide which has lowest bond energy is



R - F



R - Cl



R - Br



R - I



Correct



Unattempted



Incorrect



3/5

Q In β - elimination reaction, nucleophile attacks on



α -hydrogen



β -hydrogen



γ -hydrogen



None of these



Correct



Unattempted



Incorrect



4/5

Q $\text{CH}_3\text{CH}_2\text{Br} + \text{CH}_3\text{O}^- \longrightarrow \text{Product-I} + \text{Product-II}$

The product I and II are respectively



$\text{CH}_3\text{CH}_2\text{OCH}_3 + \text{OH}^-$



$\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ and Br^-



$\text{CH}_3\text{OCH}_3 + \text{Br}^-$



$\text{CH}_3\text{CH}_2\text{OCH}_3$ and Br^-



Incorrect



5/5

Q · The bond energy of C—Br is



467 kJmol^{-1}



413 kJmol^{-1}



346 kJmol^{-1}



290 kJmol^{-1}

Explanation

Bond	Bond energy (kJ/mole)
C—F	467
C—H	413
C—Cl	346
C—Br	290
C—I	228



QUIZZES

Practice Test No. 29



5 Questions



5 min

Topics

REACTIONS OF ALKYL HALIDES Reactions of
alkyl halides Electrophiles
Leaving group and substrate

[Start Quiz](#)



1/5



5 min



Hint

Q Which of the following is single step mechanism



E1 and E2

 S_N1 and S_N2 E1 and S_N1 E2 and S_N2



2/5



5 min



Hint

Q The RX molecule on which a nucleophile attacks is called



Attacking nucleophile



Leaving group



Substrate



Base





3/5



5 min



Hint

Q Chloroethane can be reduced with zinc in the presence of an aqueous acid such as HCl or CH_3COOH into



Propane



Methane



Ethane



n-Butane





4/5



5 min



Hint

Q . Electrophile among the following is

 NH_3  H_2O  BF_3  Cl_2 



5/5



5 min



Hint

Q Which one of the following is best nucleophile?

 H_2O  NH_3  $\text{C}_2\text{H}_5\text{O}^-$  NO^- 



Correct



Unattempted



Incorrect



1/5

Q Which of the following is single step mechanism



$E1$ and $E2$



S_N1 and S_N2



$E1$ and S_N1



$E2$ and S_N2



Correct



Unattempted



Incorrect



2/5

Q The RX molecule on which a nucleophile attacks is called



Attacking nucleophile



Leaving group



Substrate



Base



Correct



Unattempted



Incorrect



3/5

Q Chloroethane can be reduced with zinc in the presence of an aqueous acid such as HCl or CH_3COOH into



Propane



Methane



Ethane



n-Butane



Correct



Unattempted



Incorrect



4/5

Q · Electrophile among the following is



NH_3



H_2O



BF_3



Cl_2

Explanation

Boron is electron deficient in BF_3 which make it electrophile



Correct



Unattempted



Incorrect



5/5

Q Which one of the following is best nucleophile?



H_2O



NH_3



$C_2H_5O^-$



NO

Explanation

Oxygen carry negative charge and alkyl group attach with oxygen is electron donating group which enhance nucleophilic reactivity

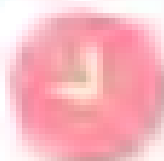


QUIZZES

Practice Test No. 30



5 Questions



5 min

Topics

Organic Chemistry | Inorganic Chemistry | Biochemistry

General Chemistry | Physics | Mathematics

Microbiology | Cell Biology | Molecular Biology

Genetics | Immunology | Pathology

Unimolecular reactions

TEST QUES



1/5



5 min



Hint

Q . Primary alkyl halides a ways follow

 S_N1 mechanism S_N2 mechanism $E1$ mechanism

All



2/5



5 min



Hint

Q 50% inversion of molecules take place in a



E1 reaction



E2 reaction

 S_N1 reaction S_N2 reaction



3/5



5 min



Hint

Q Dehydrohalogenation of $\text{CH}_3\text{-CH}_2\text{-Cl}$ gives



Ethane



Ethene



Ethyne



None of these



4/5



5 min



Hint

Q S_N2 reactions can be best carried out with



Primary alkyl halides



Secondary alkyl halides



Tertiary alkyl halides



All of these





5/5



5 min



Hint

Q The rate of E1 reaction depends upon



The concentration of substrate



The concentration of nucleophile



The concentration of substrate as well as nucleophile



None of the above





Correct



Unattempted



Incorrect



1/5

Q : Primary alkyl halides always follow



S_N1 mechanism



S_N2 mechanism



$E1$ mechanism



All

Explanation

- Primary alkyl halides give this reaction

As soon as the nucleophile starts attacking the electrophilic carbon of the substrate, the bond with which the leaving group is attached, starts breaking. In other words, the extent of bond formation is equal to the extent of bond breakage. This is called transition state.

Q 50% inversion of molecules take place in a



E1 reaction



E2 reaction



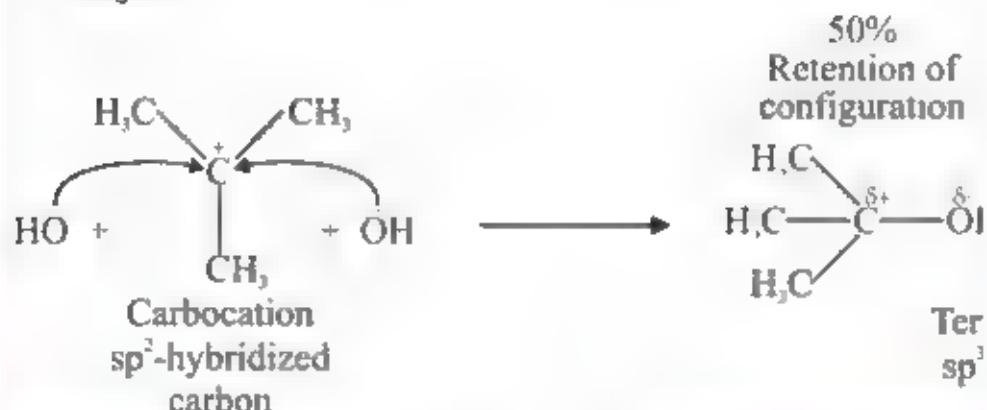
S_N1 reaction



S_N2 reaction

Explanation

The intermediate carbocation is a planar species allowing the nucleophile to attack on it from both the directions with equal ease. Therefore, there is 50% inversion of configuration and 50% retention of configuration.



Q 50% inversion of molecules take place in a



E1 reaction



E2 reaction



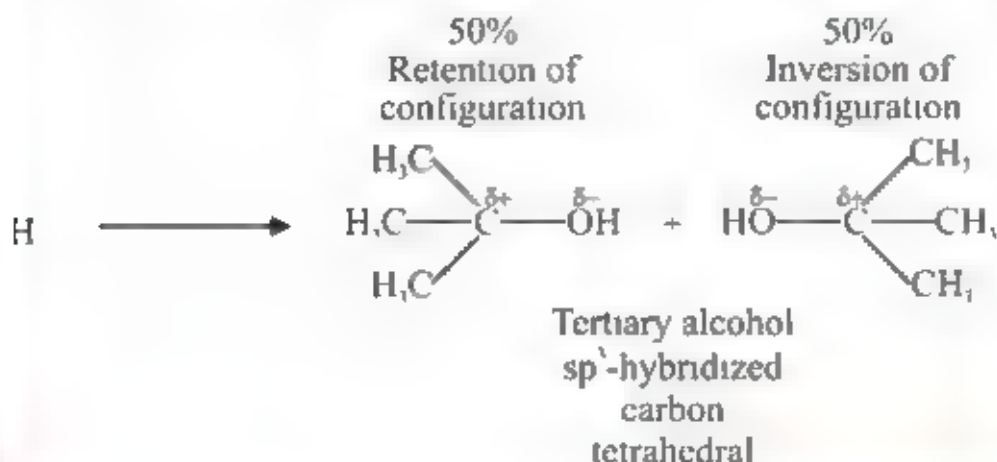
S_N1 reaction



S_N2 reaction

Explanation

It is a planar species allowing the approach from both the directions with equal ease resulting in 50% retention of configuration and 50% inversion of configuration.





Correct



Unattempted



Incorrect



3/5

Q Dehydrohalogenation of $\text{CH}_3\text{CH}_2\text{Cl}$ gives



Ethane



Ethene



Ethyne



None of these

Explanation

Dehydrohalogenation of Alkyl Halides

Removal of a halogen atom and hydrogen atom from adjacent carbon atoms is called **dehydrohalogenation**. Since hydrogen is removed from β -Carbon, this reaction is also called **β -elimination** reaction.



Correct



Unattempted



Incorrect



4/5

Q S_N2 reactions can be best carried out with



Primary alkyl halides



Secondary alkyl halides



Tertiary alkyl halides



All of these

Explanation

Among the alkyl halides, the primary alkyl halides always follow S_N2 mechanism whenever they are attacked by nucleophiles.



Correct



Unattempted



Incorrect



5/5

Q · The rate of E1 reaction depends upon



The concentration of substrate



The concentration of nucleophile



The concentration of substrate as well as nucleophile



None of the above

Explanation

Rate of reaction:

Kinetic studies of the reactions involving E1 mechanism have shown that the rates of such reactions depend upon the concentration of alkyl halide only. Mathematically, the rate can be expressed as

$$\text{Rate} = k [\text{alkyl halide}]^1$$



QUIZZES

Practice Test No. 31



5 Questions



5 min

Topics

1. **1,2-D REAGENT** Formation and
reaction, Structure and reactivity

Start Quiz



1/5



5 min



Hint

Q Grignard's reagent is prepared by the reaction of Mg metal with R - X in the presence of



Alcoholic ether



Dry ether



Hydrated ether



Acidified ether



2/5



5 min



Hint

Q Grignard's reagent reacts with formaldehyde to give followed by hydrolysis



Primary alcohol



Secondary alcohol



Tertiary alcohol



Carboxylic acid





3/5



5 min



Hint

Q Which one of the alkyl halides is not used for the preparation of Grignard's reagent

 $R-F$  $R-Cl$  $R-Br$  $R-I$ 



4/5



5 min



Hint

Q $\text{CH}_3\text{CH}_2\text{MgX} + \text{CO}_2 \xrightarrow{\text{H}_2\text{O}} \text{A} - \text{Mg Br OH}$ 'A' is

 $\text{CH}_3\text{CH}_2\text{COOH}$  $\text{CH}_3\text{CH}_2\text{CH}_3$  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$  CH_3CH_3 



5/5



5 min



Hint

Q . Grignard's reagent is reactive due to



The presence of halogen atom



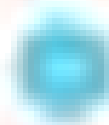
The presence of Mg atom



The polarity of C-Mg bond



The polarity of Mg-X bond





Correct



Unattempted



Incorrect



1/5

Q Grignard's reagent is prepared by the reaction of Mg metal with R - X in the presence of



Alcoholic ether



Dry ether



Hydrated ether



Acidified ether



Correct



Unattempted



Incorrect



2/5

Q Grignard's reagent reacts with formaldehyde to give followed by hydrolysis



Primary alcohol



Secondary alcohol



Tertiary alcohol



Carboxylic acid



Correct



Unattempted



Incorrect



3/5

Q Which one of the alkyl halides is not used for the preparation of Grignard's reagent



R - F



R - Cl



R - Br



R - I



Correct



Unattempted



Incorrect



4/5

Q. $\text{CH}_3\text{CH}_2\text{MgX} + \text{CO}_2 \xrightarrow{\text{H}_2\text{O}} \text{A} - \text{Mg Br OH}$ 'A' is



$\text{CH}_3\text{CH}_2\text{COOH}$



$\text{CH}_3\text{CH}_2\text{CH}_3$



$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$



CH_3CH_3



Correct



Unattempted



Incorrect



5/5

Q · Grignard's reagent is reactive due to



The presence of halogen atom



The presence of Mg atom



The polarity of C-Mg bond



The polarity of Mg-X bond



QUIZZES

Practice Test No. 32



3 Questions



5 min

Topics

ALCOHOLS | ALKYL HALIDES | ALKYL HYDROGEN SULFIDES | ALKYL HYDROGEN SULFIDES | ALKYL HYDROGEN SULFIDES

ETHERS

Start Quiz



1/3



5 min



Hint

Q Which one of the following is not derivative of water

 CH_3OH  $\text{C}_2\text{H}_5\text{OH}$  $\text{C}_6\text{H}_5\text{OH}$  $\text{CH}_3\text{-CH}_2\text{-CH}_3$



2/3



5 min



Hint

Q Select which of the following is an alcohol





3/3



5 min



Hint

Q Which one of the following compound does not have $-OH$ group



Ethylene Glycol



Glycerol



Peric acid



Ethyl acetate





Correct



Unattempted



Incorrect



1/3

Q Which one of the following is not derivative of water



CH_3OH



$\text{C}_2\text{H}_5\text{OH}$



$\text{C}_6\text{H}_5\text{OH}$



$\text{CH}_3\text{-CH}_2\text{-CH}_3$



Correct



Unattempted

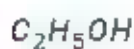


Incorrect



2/3

Q Select which of the following is an alcohol





Correct



Unattempted



Incorrect



3/3

Q Which one of the following compound does not have -OH group



Ethylene Glycol



Glycerol



Peric acid



Ethyl acetate



QUIZZES

Practice Test 33



5 Questions



5 min

Topics

preparation of methanol Industrial

Start Quiz



1/5



5 min



Hint

Q The maximum % age of alcohol which can be prepared by fermentation process is



8%



14%



90%



95%



2/5



5 min



Hint

Q Rectified spirit contains acohol about



80%



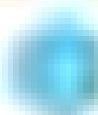
85%



90%



95%





3/5



5 min



Hint

Q Which compound shows maximum hydrogen bonding with water?

 $\text{C}_3\text{H}_7\text{OH}$  $\text{C}_2\text{H}_5\text{OH}$  $\text{CH}_3\text{-O-CH}_3$  $\text{C}_6\text{H}_5\text{OH}$ 



4/5



5 min



Hint

Q Aromatic Alcohol among the following is



Phenol



Acetophenone



Benzyl alcohol



Diethyl ether





5/5



5 min



Hint

Q All methods are for preparation of alcohols except



Fermentation



Hydration of alkene



Grignard's reagent



Williamson's synthesis





Correct



Unattempted



Incorrect



1/5

Q The maximum % age of alcohol which can be prepared by fermentation process is



8%



14%



90%



95%

Explanation

Alcohol obtained by fermentat on is upto 12% and never exceed 14% because beyond this limit, the enzymes become inactive



Correct



Unattempted



Incorrect



2/5

Q Rectified spirit contains acohol about



80%



85%



90%



95%

Explanation

Rectified Spirit:

95% ethyl alcohol is called rectified spirit or commercial alcohol



Correct



Unattempted



Incorrect



3/5

Q Which compound shows maximum hydrogen bonding with water?



C_3H_7OH



C_2H_5OH



CH_3-O-CH_3



C_6H_5OH



Correct



Unattempted



Incorrect



4/5

Q Aromatic Alcohol among the following is



Phenol



Acetophenone



Benzyl alcohol



Diethyl ether



Incorrect



5/5

Q • All methods are for preparation of alcohols except



Fermentation



Hydration of alkene



Grignard's reagent



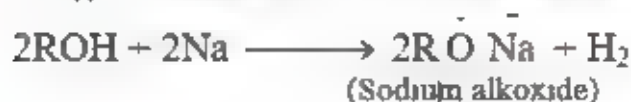
Williamson's synthesis

Explanation

(1) Williamsons Synthesis

It is a two step reaction

(i) Alcohol reacts with metallic sodium to form alkoxide





QUIZZES

Practice Test 34



5 Questions



5 min

Topics

Reactions in which C – O bond is broken

Oxidation reactions

Start Quiz



1/5



5 min



Hint

Q Most reactive alcohol when it reacts with Na



Methanol



Propanol



Ethanol



Butanol



2/5



5 min



Hint

Q For the reaction of alcohol in which O-H bond cleavage is involved, the order of reactivity is:



Primary alcohol > Secondary alcohol > Tertiary alcohol



Primary alcohol > Tertiary alcohol > Secondary alcohol



Tertiary alcohol > Secondary alcohol > Primary alcohol



Secondary alcohol > Tertiary alcohol > Primary alcohol





3/5



5 min



Hint

Q Dehydration products of alcohols are



Alkanes



Alkenes



Alkynes



Aldehydes





4/5



5 min



Hint

Q Oxidation of primary alcohols in the presence of $K_2Cr_2O_7$ produces



Aldehydes



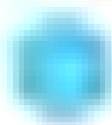
Ketones



Carboxylic acids



Ethers





5/5



5 min



Hint

Q Ethanol can be converted into ethanoic acid by



Hydration



Fermentation



Hydrogenation



None of these



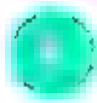


Incorrect



1/5

Q Most reactive alcohol when it reacts with Na



Methanol



Propanol



Ethanol



Butanol

Explanation

When sodium reacted with alcohol then its O-H bond will be broken

When O – H bond breaks:

$\text{CH}_3\text{OH} > \text{Primary alcohol} > \text{Secondary alcohol} > \text{tertiary alcohol}$

This order of reactivity is based upon the stability of alkoxide ion (intermediate) formed during the reaction



Correct



Attempted



Incorrect



2/5

Q For the reaction of alcohol in which O-H bond cleavage is involved, the order of reactivity is



Primary alcohol > Secondary alcohol > Tertiary alcohol



Primary alcohol > Tertiary alcohol > Secondary alcohol



Tertiary alcohol > Secondary alcohol > Primary alcohol



Secondary alcohol > Tertiary alcohol > Primary alcohol

Explanation

When O – H bond breaks:

CH_3OH > Primary alcohol > Secondary alcohol > tertiary alcohol

This order of reactivity is based upon the stability of alkoxide ion (intermediate) formed during the reaction



Correct



Unattempted



Incorrect



3/5

Q Dehydration products of alcohols are



Alkanes



Alkenes

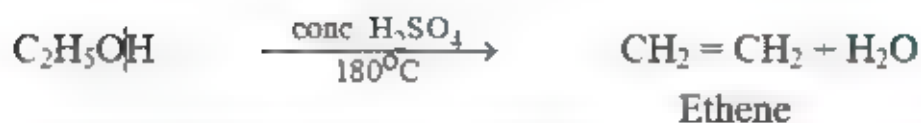


Alkynes



Aldehydes

Explanation





Correct



Unattempted



Incorrect



4/5

Q Oxidation of primary alcohols in the presence of $K_2Cr_2O_7$ produces



Aldehydes



Ketones

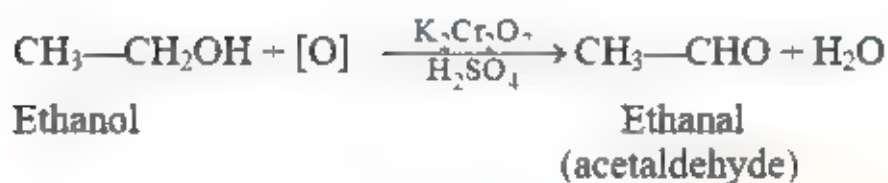


Carboxylic acids



Ethers

Explanation





Correct



Unattempted



Incorrect



5/5

Q Ethanol can be converted into ethanoic acid by



Hydration



Fermentation



Hydrogenation



None of these

Explanation

Ethanol can be converted into ethanoic acid by oxidation

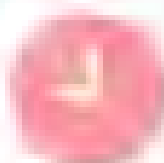


QUIZZES

Practice Test 35



5 Questions



5 min

Topics

Genetics, Biochemistry, Cell Biology, Microbiology, Immunology, Pathology, Pharmacology, Physiology, Bioethics, and Medical Law

Lucas Test

Start Quiz



1/5



5 min



Hint

Q Which of the following compound will give Iodoform test?



Ether



Phenol



Ethanol



Ethylene glycol



2/5



5 min



Hint

Q . Methyl alcohol is not used as



A solvent



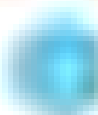
An anti - freezing agent



A substitute for petrol



In denaturing of acohol





3/5



5 min



Hint

Q . Methyl alcohol is not used as



A solvent



An anti - freezing agent



A substitute for petrol



In denaturing of acohol





4/5



5 min



Hint

Q Primary, secondary and tertiary alcohols can be distinguished by



Benedict's solution



Lucas test



Fehling's solution



Ammonical silver nitrate (Tollen's reagent)





5/5



5 min



Hint

Q Which substance is used as denaturing of alcohol



Methanol



Ethanol



Acetone



Acetic acid





Correct



Unattempted



Incorrect



1/5

Q Which of the following compound will give Iodoform test?



Ether



Phenol



Ethanol



Ethylene glycol



Incorrect



2/5

Q : Methyl alcohol is not used as



A solvent



An anti – freezing agent



A substitute for petrol



In denaturing of a alcohol

Explanation

Uses of Methanol:

Methanol is used

- () As a solvent for fats, oils, paints and varnishes
- () As antifreeze in radiators of automobiles
- (x) For denaturing of a alcohol as it is very poisonous



Correct



Unattempted



Incorrect



3/5

Q · Methyl alcohol is not used as



A solvent



An anti-freezing agent



A substitute for petrol



In denaturing of alcohol



Correct



Unattempted



Incorrect



4/5

Q Primary, secondary and tertiary alcohols can be distinguished by



Benedict's solution



Lucas test



Fehling's solution



Ammonical silver nitrate (Tollen's reagent)



Incorrect



5/5

Q Which substance is used as denaturing of alcohol



Methanol



Ethanol



Acetone



Acetic acid

Explanation

Uses of Methanol:

Methanol is used

- () As a solvent for fats, oils, paints and varnishes
- () As antifreeze in radiators of automobiles
- (x) For denaturing of alcohol as it is very poisonous



QUIZZES

Practice Test 36

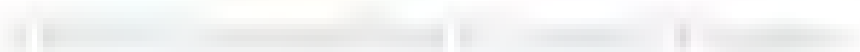


5 Questions



5 min

Topics



properties

Start Quiz



1/5



5 min



Hint

Q . Phenol was isolated by Runge from



Vegetable oil



Coal tar



Wood



None of these



2/5



5 min



Hint

Q When Chloro-benzene is treated with 10% NaOH at 360°C and 150 atm pressure



Phenol



Sodium Ethoxide



Toluene



Benzene





3/5



5 min



Hint

Q Phenol at room temperature has a physical state



Gas



Liquid



Solid



Both b & c





4/5



5 min



Hint

Q . Melting point of Phenol is



41 K



314 K



298 K



400 K





5/5



5 min



Hint

Q Preparation of benzene by using Phenol and Zn is an example of



Oxidation



Reduction



Neutralization



Disproportionation





Correct



Unattempted



Incorrect



1/5

Q Phenol was isolated by Runge from



Vegetable oil



Coal tar



Wood



None of these



Correct



Unattempted



Incorrect



2/5

Q When Chloro-benzene is treated with 10% NaOH at 360°C and 150 atm pressure



Phenol



Sodium Ethoxide



Toluene



Benzene

Explanation

When Chloro-benzene is treated with 10% NaOH at 360°C and 150 atm pressure sodium phenoxide is produced



Correct



Unattempted



Incorrect



3/5

Q Phenol at room temperature has a physical state



Gas



Liquid



Solid



Both b & c

Explanation

Melting point of phenol is 41°C



Correct



Unattempted



Incorrect



4/5

Q · Melting point of Phenol is



41 K



314 K



298 K



400 K

Explanation

Melting point of phenol 41°C



Correct



Unattempted



Incorrect



5/5

Q Preparation of benzene by using Phenol and Zn is an example of



Oxidation



Reduction



Neutralization



Disproportionation



USAMA SOHAIL

SAEED MDCAT

SAEED MDCAT TEAM

f SAEEDMDCAT



QUIZZES

Practice Test 37



5 Questions



5 min

Topics

Reactions of phenol Acidic behaviour of

Reactions of phenol due to benzene ring

Start Quiz



1/5



5 min



Hint

Q Phenol when reacts with Zn dust, produces



Acetylene



Aniline



Toluene



Benzene

2

3

4

5



2/5



5 min



Hint

Q Hydrogenation of phenol is example of — reaction



Subst tution



Elim nat on

**Addition**

Polymerization





3/5



5 min



Hint

Q . Phenol Reacts with CH_3COCl to give.



Acid



Alcohol



Aldehyde



Ester





4/5



5 min



Hint

Q Which of the following is stronger acid



Phenol



Benzoic acid



Ethyl alcohol



Water





5/5



5 min



Hint

Q Preparation of benzene by using Phenol and Zn is an example of



Oxidation



Reduction



Neutralization



Disproportionation



Incorrect

1/5

Q Phenol when reacts with Zn dust, produces

Acetylene

Aniline

Toluene

Benzene

Explanation





Correct



Unattempted



Incorrect



2/5

Q Hydrogenation of phenol is example of ----- reaction



Substitution



Elimination



Addition



Polymerization



Incorrect



3/5

Q Phenol Reacts with CH_3COCl to give



Acid



Alcohol

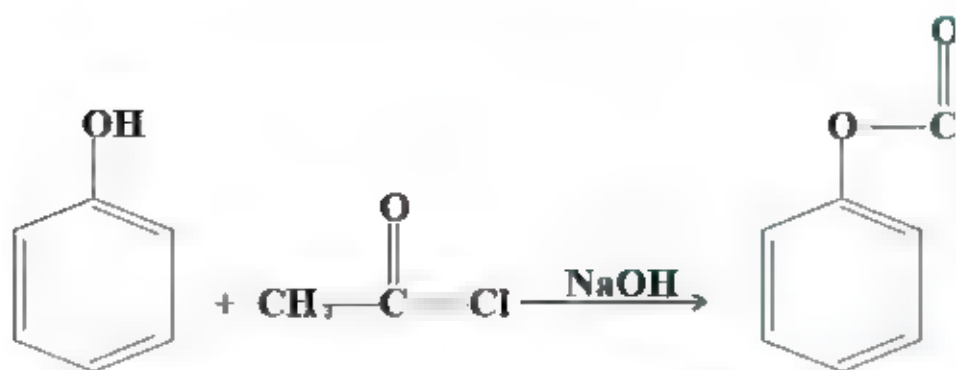


Aldehyde



Ester

Explanation



Phenyl acetate



Correct



Unattempted



Incorrect



4/5

Q Which of the following is stronger acid



Phenol



Benzoic acid



Ethyl alcohol



Water

Explanation

The stronger acid among than benzoic acid



Incorrect



5/5

Q Preparation of benzene by using Phenol and Zn is an example of



Oxidation



Reduction



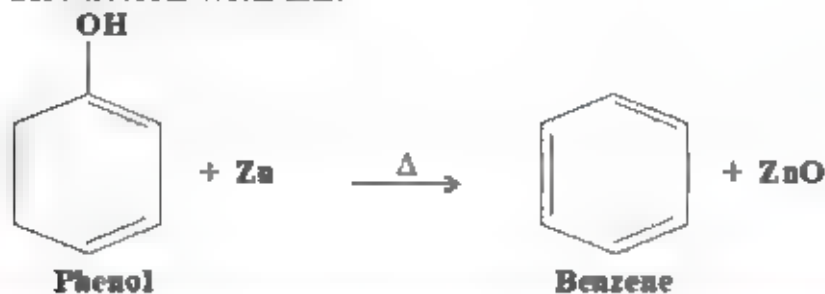
Neutralization



Disproportionation

Explanation

Reduction with Zn:



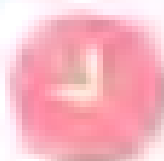


QUIZZES

Practice Test 38



5 Questions



5 min

Topics

100% Periodic Table | Bonding | Oxidation

reactivity

Start Quiz



1/5



5 min



Hint

Q Diethyl ether on heating with conc HI gives



Ethyl iodide



Ethanol



Iodoform



Both a and b



2/5



5 min



Hint

Q According to Lewis concept ether behave as



Acid



Base



Acid as well as a base



None of them





3/5



5 min



Hint

Q Which compound will have the maximum repulsion with H_2O ?

 C_6H_6  C_2H_5OH  $CH_3CH_2CH_2OH$  $CH_3 - O - CH_3$ 



4/5



5 min



Hint

Q . Ethers show the phenomenon of



Position isomerism



Metamerism



Functional group isomerism



Cis-trans isomerism





5/5



5 min



Hint

Q Ethers show functional group Isomerism with



Aldehydes



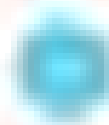
Ketones

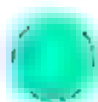


Alcohols



Carboxylic acids





Correct



Unattempted



Incorrect



1/5

Q Diethyl ether on heating with conc. HI gives



Ethyl iodide



Ethanol



Iodoform



Both a and b



Correct



Unattempted



Incorrect



2/5

Q According to Lewis concept ether behave as



Acid



Base



Acid as well as a base



None of them



Correct



Unattempted



Incorrect



3/5

Q Which compound will have the maximum repulsion with H_2O ?



C_6H_6



C_2H_5OH



$CH_3CH_2CH_2OH$



$CH_3 - O - CH_3$



Correct



Unattempted



Incorrect



4/5

Q · Ethers show the phenomenon of



Position isomerism



Metamerism



Functional group isomerism



Cis-trans isomerism



Correct



Unattempted



Incorrect



5/5

Q Ethers show functional group isomerism with



Aldehydes



Ketones



Alcohols



Carboxylic acids

Explanation

Both have same molecular formula but different structure due to different functional group.

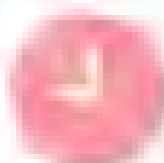


QUIZZES

Practice Test 39



5 Questions



5 min

Topics

Nomenclature

Nomenclature

Start Quiz



1/5



5 min



Hint

Q The functional group present in most of the sugars



Ketonic group



Carboxylic group



Aldehydic group



All



2/5



5 min



Hint

Q Aldehydes are colourless liquids except



Acetaldehyde



Formaldehyde



Propionaldehyde



Butyraldehyde





3/5



5 min



Hint

Q Organic compounds containing _____ are called aldehydes and ketones



Carbonyl functional group



Hydroxyl functional group



Carboxyl functional group



All of the above





4/5



5 min



Hint

Q The common names of aldehydes are obtained from the names of carboxylic acid containing same number of



Carbon atoms



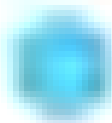
Hydrogen atom



Oxygen atoms



Carbon and hydrogen atoms





5/5



5 min



Hint

Q Which of the following is a symmetrical ketone



3- hexanone



Acetone



Butanone



2- pentanone





Correct



Unattempted



Incorrect



1/5

Q The functional group present in most of the sugars.



Ketonic group



Carboxylic group



Aldehydic group



All



Correct



Unattempted



Incorrect



2/5

Q Aldehydes are colourless liquids except



Acetaldehyde



Formaldehyde



Propionaldehyde



Butyraldehyde



Correct



Unattempted



Incorrect



3/5

Q Organic compounds containing _____ are called aldehydes and ketones



Carbonyl functional group



Hydroxy functional group



Carboxyl functional group



All of the above



Correct



Unattempted



Incorrect



4/5

Q The common names of aldehydes are obtained from the names of carboxylic acid containing same number of



Carbon atoms



Hydrogen atom



Oxygen atoms



Carbon and hydrogen atoms

Explanation

The common names of aldehydes are obtained from the names of carboxylic acid containing same number of carbon atoms



Incorrect



5/5

Q Which of the following is a symmetrical ketone



3 hexanone



Acetone

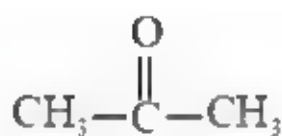


Butanone



2- pentanone

Explanation



Propanone
(acetone)

In symmetrical ketone number of carbon atom is same in both side of carbonyl group.



QUIZZES

Practice Test 40



5 Questions



5 min

Topics

dehyde Preparat on of

Start Quiz



1/5



5 min



Hint

Q Ketones are prepared by the oxidation of



Primary alcohols



Secondary alcohols



Tertiary alcohols



None of these



2/5



5 min



Hint

Q Aldehydes are prepared by the oxidation of



Primary alcohols



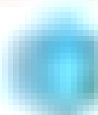
Secondary alcohols



Tertiary alcohols



All of above





3/5



5 min



Hint

Q Which of the following is not used as a catalyst for oxidation of methanol



Copper



Silver



Nickel



Platinized asbestos





4/5



5 min



Hint

Q The conditions needed for the industria preparation of formaldehyde

are



Cu, Ag 300°C



Pt-asbestos , 300°C



FeO , Mo_2O_3 , 500°C



PdCl_2 , Cu_2Cl_2 , H_2O





5/5



5 min



Hint

Q The ethanal liquid obtained by the oxidation of ethyl alcohol is to be immediately distilled off to avoid its _____ to _____

Oxidation , CH_3COOH Reduction , $\text{C}_2\text{H}_5\text{OH}$ Decomposition , CO_2 & H_2O 

Reduction , ethane





Incorrect



1/5

Q . Ketones are prepared by the oxidation of



Primary alcohols



Secondary alcohols

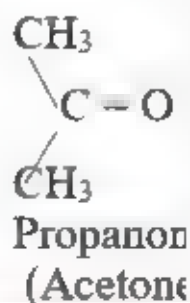
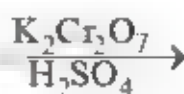
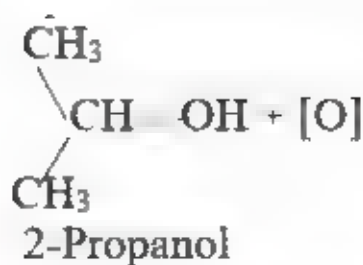


Tertiary alcohols



None of these

Explanation





Incorrect



1/5

Q Ketones are prepared by the oxidation of



Primary alcohols



Secondary alcohols

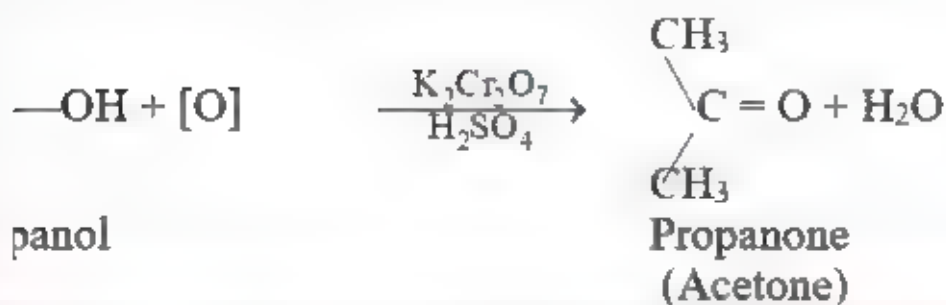


Tertiary alcohols



None of these

Explanation





Correct



Unattempted



Incorrect



2/5

Q Aldehydes are prepared by the oxidation of



Primary alcohols



Secondary alcohols



Tertiary alcohols



All of above



Correct



Unattempted



Incorrect



3/5

Q Which of the following is not used as a catalyst for oxidation of methanol



Copper



Silver



Nickel



Platinised asbestos

Explanation

methy alcohol vapours and air over platinised (Pt) asbestos or copper (Cu) or silver (Ag) catalyst at 300°C

Incorrect

4/5

Q The conditions needed for the industrial preparation of formaldehyde are

☐ Cu, Ag 300°C

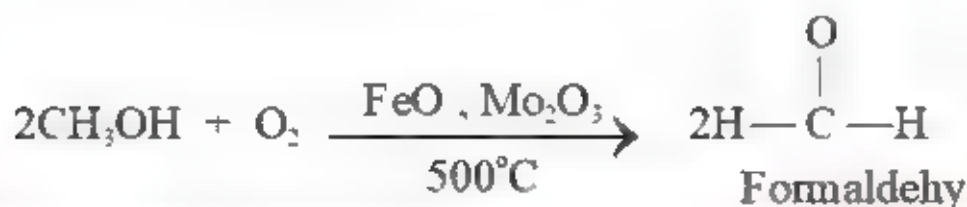
☐ Pt-asbestos, 300°C

☒ FeO, Mo₂O₃, 500°C

☐ PdCl₂, Cu₂Cl₂, H₂O

Explanation

Formaldehyde is manufactured by passing a mixture of methanol vapours and air over fused mixture of iron oxide and molybdenum oxide or silver catalyst at 500°C



Incorrect

4/5

Q The conditions needed for the industrial preparation of formaldehyde are

Cu, Ag 300°C

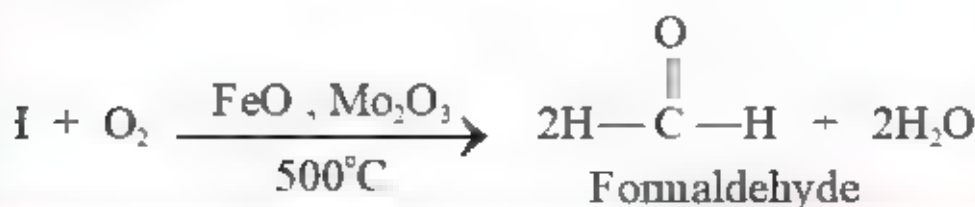
Pt-asbestos, 300°C

FeO, Mo₂O₃, 500°C

PdCl₂, Cu₂Cl₂, H₂O

Explanation

It is manufactured by passing a mixture of methanol and air over fused mixture of iron oxide and molybdenum catalyst at 500°C





Correct



Unattempted



Incorrect



5/5

Q The ethanal liquid obtained by the oxidation of ethyl alcohol is to be immediately distilled off to avoid its _____ to _____



Oxidation, CH_3COOH



Reduction, $\text{C}_2\text{H}_5\text{OH}$



Decomposition, CO_2 & H_2O



Reduction ethane



QUIZZES

Practice Test 41



5 Questions



5 min

Topics

REACTIVITY OF CARBONYL GROUP

and ket

Start Quiz



1/5



5 min



Hint

Q The carbon atom of a carbonyl group is



sp hybridized



sp² hybridized



sp³ hybridized



None of these



2/5



5 min



Hint

Q The carbon atom of a carbonyl group is



sp hybridized



sp^2 hybridized



sp^3 hybridized



dsp^2 hybridized





3/5



5 min



Hint

Q Which of the following option is true regarding carbonyl group



P aner group



Contains 4-sigma electrons

Contains 2- π bonds

All of these





4/5



5 min



Hint

Q The most of the reactions followed by the carbonyl compounds are



Electrophilic addition reaction



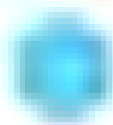
Nucleophilic addition reaction



Electrophilic substitution reaction



Nucleophilic substitution reaction





5/5



5 min



Hint

Q The _____ can be used to prepare carbonyl compound



Destructive distillation



Dry distillation



Vacuum distillation



Fractional distillation





Correct



Unattempted



Incorrect



1/5

Q The carbon atom of a carbonyl group is



sp hybridized



sp^2 hybridized



sp^3 hybridized



None of these



Correct



Unattempted



Incorrect



2/5

Q The carbon atom of a carbonyl group is



sp hybridized



sp^2 hybridized



sp^3 hybridized



dsp^2 hybridized



Correct



Unattempted



Incorrect



3/5

Q Which of the following option is true regarding carbonyl group



Planar group



Contains 4-sigma electrons

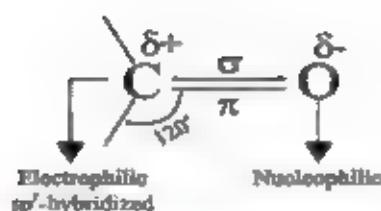


Contains 2-pi bonds



All of these

Explanation



Q The most of the reactions followed by the carbonyl compounds are



Electrophilic addition reaction



Nucleophilic addition reaction



Electrophilic substitution reaction



Nucleophilic substitution reaction

Explanation

Nucleophilic addition reactions:

The unsymmetrical distribution of electronic cloud around carbonyl group makes it polar. It can undergo reaction with nucleophile or electrophile. Whether the initial attack is done by electrophilic reagent or nucleophilic reagent depends upon.

(i) A particular reaction

(ii) Conditions under which the reaction is being carried out.

Most of the reactions of carbonyl compounds are nucleophilic addition reactions.



Correct



Unattempted



Incorrect



5/5

Q . The _____ can be used to prepare carbonyl compound



Destructive distillation



Dry distillation



Vacuum distillation



Fractional distillation

Explanation

Dry distillation:

Acetaldehyde can also be prepared by the dry distillation of a mixture of calcium salts of formic acid and acetic acid. Acetone is prepared by dry distillation of calcium acetate.



QUIZZES

Practice Test 42



5 Questions



5 min

Topics

Start Quiz



1/5



5 min



Hint

Q . Grignard reagent can react with



Acetaldehyde



Propanol



Formaldehyde



All of these



2/5



5 min



Hint

Q

Hydrolysis of $-\text{CN}$ by an aqueous acid generates $-\text{COOH}$ through

 $-\text{COO}^-$  $-\text{COX}$  COOR  $-\text{CONH}_2$ 



3/5



5 min



Hint

Q The alkoxide ion formed during aldol condensation involves removal of _____ from water to get the final product aldol



Hydride ion



Hydrogen ion



Oxide ion



Hydroxide ion





4/5



5 min



Hint

Q The reaction of CH_3COCH_3 with NaCN/HCl combination yields

 $\text{H}_2\text{COH}(\text{CN})$  $\text{H}_3\text{CCHOH}(\text{CN})$  $\text{H}_3\text{CCH}(\text{OH})_2\text{CN}$  $(\text{H}_3\text{C})_2\text{CHOH}(\text{CN})$ 



5/5



5 min



Hint

Q When two moles of acetone are treated with a base the product is



4-hydroxy -4 methyl -2-pentanone



3-hydroxy butanone



3-hydroxy 2 methyl pentanone



3- hydroxyl pentanal





Correct



Unattempted



Incorrect



1/5

Q · Grignard reagent can react with



Acetaldehyde



Propanol



Formaldehyde



All of these

Explanation

Grignard reagent can react with all types of carbonyl compounds



Incorrect



2/5

Q

Hydrolysis of $-\text{CN}$ by an aqueous acid generates $-\text{COOH}$ through



$-\text{COO}^-$



$-\text{COX}$



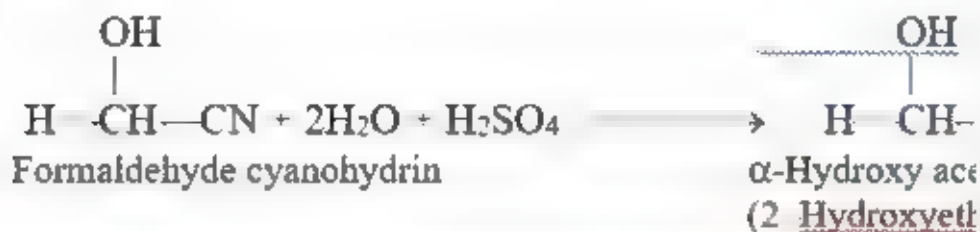
$-\text{COOR}$



$-\text{CONH}_2$

Explanation

The cyano group, $-\text{C} \equiv \text{N}$ is hydrolysed by an aqueous acid into α -hydroxy carboxylic acid through α -hydroxy acid amide





Incorrect



3/5

Q The alkoxide ion formed during aldol condensation involves removal of _____ from water to get the final product aldol



Hydride ion



Hydrogen ion



Oxide ion

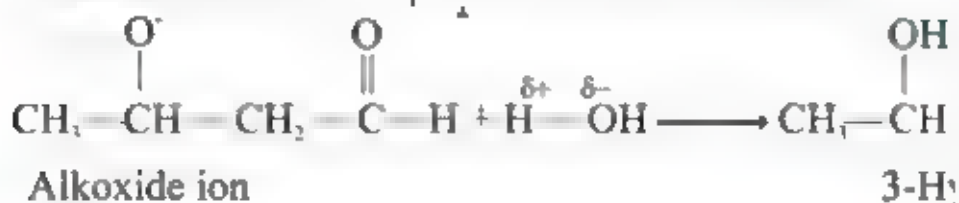


Hydroxide ion

Explanation

(i) Removal of Proton By Alkoxide:

The alkoxide ion removes a proton from water to form aldol





Correct



unattempted



Incorrect



4/5

Q : The reaction of CH_3COCH_3 with NaCN/HCl combination yields



$\text{H}_2\text{COH}(\text{CN})$



$\text{H}_3\text{CCHOH}(\text{CN})$

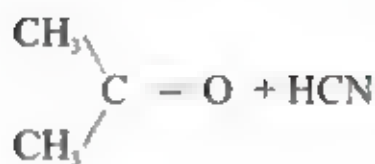


$\text{H}_3\text{CCH}(\text{OH})_2\text{CN}$

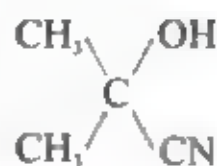


$(\text{H}_3\text{C})_2\text{COH}(\text{CN})$

Explanation



Acetone



Acetone cyanohyd



Correct



Unattempted



Incorrect



5/5

Q When two moles of acetone are treated with a base the product is



4-hydroxy -4 methyl -2-pentanone



3 hydroxy butanone



3 hydroxy 2 methyl pentanone



3- hydroxyl pentanal



QUIZZES

Practice Test 43



5 Questions



5 min

Topics

Cell Structure and Function | Biomolecules | Cell Communication and Signaling

Genetics | Molecular Biology | Microbiology | Immunology

Physiology | Pathology | Pharmacology | Environmental Health

DNPH

Start Quiz



1/5



5 min



Hint

Q Aldehydes react with hydroxy amine in acidic solution to give



An oxime



Aldol



Polymer



Acetic acid



2/5



5 min



Hint

Q Which of the following compounds will not give Iodoform test on treatment with $I_2/NaOH$



Formaldehyde



Methanol



3-pentanone



All of these





3/5



5 min



Hint

Q Which one has yellow or orange crystalline ppt?



Acetone hydrazone



2,4- dinitrophenyl hydrazone



Ethanal oxime



B sulphite addition product





4/5



5 min



Hint

Q Cannizaro's reaction takes place through the transfer of



Hydrogen ion



Hydride ion



Oxide ion



Methoxide ion





5/5



5 min



Hint

Q Para dehyde is a trimer formed from _____ in the presence of acid

 CH_3CHO  CH_3COCH_3  $(\text{CH}_3)_3\text{C}\cdot\text{CHO}$  $\text{CH}_3(\text{CH}_2)_2\text{CHO}$ 



Incorrect



1/5

Q Aldehydes react with hydroxy amine in acidic solution to give



An oxime



Aldol



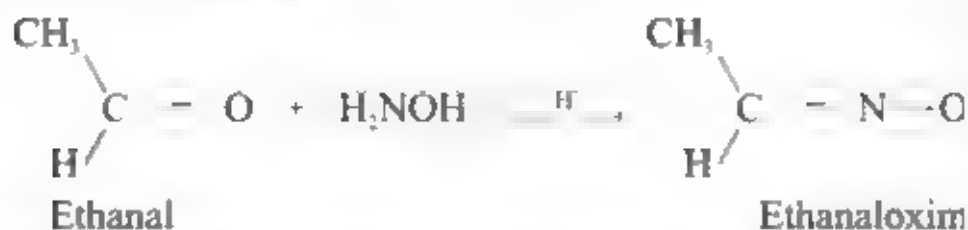
Polymer



Acetic acid

Explanation

Aldehydes and ketones react with hydroxylamine to form oximes in the presence of an acid





Incorrect



2/5

Q Which of the following compounds will not give iodoform test on treatment with $I_2/NaOH$



Formaldehyde



Methanol



3-pentanone



All of these

Explanation

The compounds that give haloform reaction are:

- (i) Only acetaldehyde (among aldehydes)
- (ii) Methyl ketones (among ketones)

2-alkanol (secondary alcohol) and only ethanol (among primary alcohols)



Incorrect



3/5

Q Which one has yellow or orange crystalline ppt?



Acetone hydrazone



2,4- dinitrophenyl hydrazone



Ethanal oxime



B sulphite addition product

Explanation

Aldehydes and ketones react with 2, 4-dinitrophenylhydrazine to form 2, 4-dinitrophenylhydrazones in the presence of an acid

IMPORTANCE:

This reaction can be used for the identification of aldehydes and ketones because 2, 4-d nitrophenylhydrazones are usually yellow orange crystalline solids



Correct



Unattempted



Incorrect



4/5

Q Cannizaro's reaction takes place through the transfer of



Hydrogen ion



Hydride ion



Oxide ion



Methoxide ion

Explanation

Hydride Ion Transfer:

The anion transfers a hydride ion to second molecule of formaldehyde

Q Para dehyde is a trimer formed from _____ in the presence of acid



CH_3CHO



CH_3COCH_3



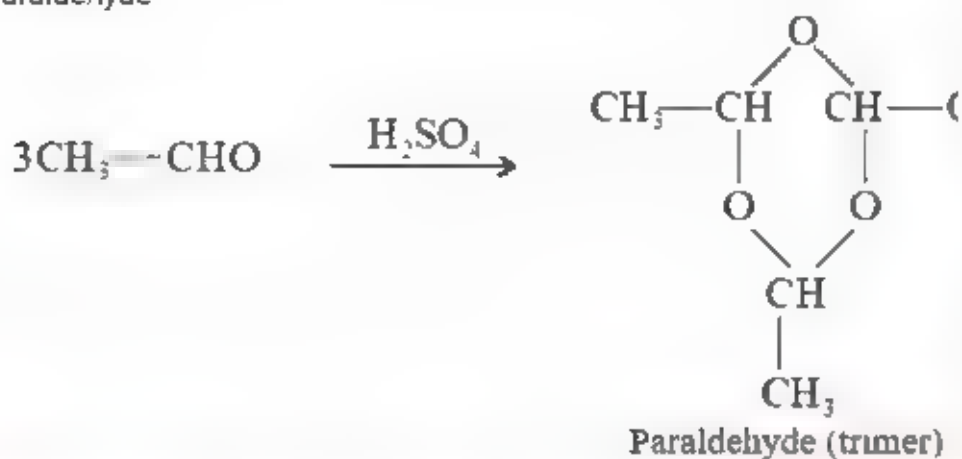
$(\text{CH}_3)_3\text{C-CHO}$



$\text{CH}_3(\text{CH}_2)_2\text{CHO}$

Explanation

Acetaldehyde polymerizes in the presence of dil H_2SO_4 to give paraldehyde



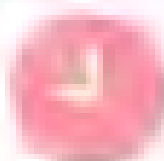


QUIZZES

Practice Test 44



5 Questions



5 min

Topics

Start Quiz



1/5



5 min



Hint

Q . Which is most difficult to oxidize?

 $\text{C}_2\text{H}_5\text{CHO}$  CH_3CHO  HCHO  CH_3COCH_3

2

3

4

5



2/5



5 min



Hint

Q Crotonaldehyde can be converted to _____ in the presence of NaBH_4



2-butene



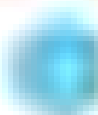
1-butanol



2-buten-1-ol



All of the above





3/5



5 min



Hint

Q H_3CCOH on treating with $\text{H}_5\text{C}_2\text{OH}$ in the presence of dry HCl produces





4/5



5 min



Hint

Q The hydrolysis of acetal generates _____ and _____ in the presence of acid



Aldehyde , alcohol



Aldehyde , ketone



Ketone , alcohol



Ketone , alcohol





5/5



5 min



Hint

Q Sodium borohydride (NaBH_4) reduces the _____ to form alcohol

 $>\text{C}-\text{C}<$  $>\text{C}=\text{O}$  $-\text{CH}_2-\text{OH}$ 

D $-\text{CH}_3$





Correct



Unattempted



Incorrect



1/5

Q · Which is most difficult to oxidize?



C_2H_5CHO



CH_3CHO



$HCHO$



CH_3COCH_3

Explanation

Ketones do not undergo oxidation easily because they require breaking of strong carbon-carbon bond. They give no reaction with mild oxidizing agents. They are only oxidized by strong oxidizing agents such as $K_2Cr_2O_7 / H_2SO_4$, $KMnO_4/H_2SO_4$, and conc. HNO_3 .



Correct



Unattempted



Incorrect



2/5

Q Crotonaldehyde can be converted to _____ in the presence of NaBH_4



2-butene



1-butanol



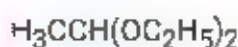
2-buten-1-ol



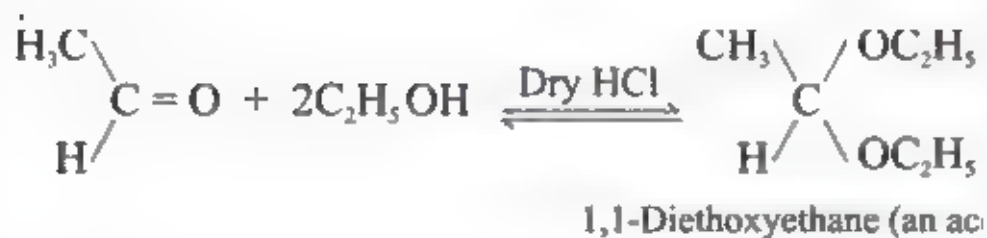
All of the above

Explanation

Q H_3CCOH on treating with $\text{H}_5\text{C}_2\text{OH}$ in the presence of dry HCl produces



Explanation



IMPORTANCE:

This reaction is used to protect the aldehyde group against alkaline oxidizing agent



Incorrect



4/5

Q The hydrolysis of acetal generates _____ and _____ in the presence of ac.d



Aldehyde , alcoho



Aldehyde , ketone



Ketone , acohol

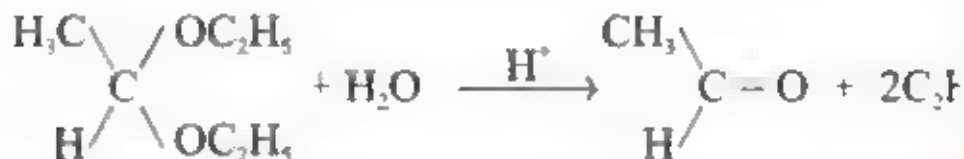


Ketone , alcohols

Explanation

Regeneration of Aldehyde from Acetal

To regenerate aldehyde, the acetal is hydrolysed in the presence of an acid





Correct



Unattempted



Incorrect



5/5

Q Sodium borohydride (NaBH_4) reduces the _____ to form alcohol



$>\text{C}-\text{C}<$



$>\text{C}=\text{O}$



$-\text{CH}_2-\text{OH}$



$-\text{CH}_3$

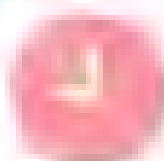


QUIZZES

Practice Test 45



5 Questions



5 min

Topics

Start Quiz



1/5



5 min



Hint

Q 2,4 – Dinitrophenylhydrazine is used to identify the presence of



2,4 – Dinitrophenylhydrazine is used to identify the presence of



Alcohols



Ethers



Carbonyl compounds



2/5



5 min



Hint

Q . Silvering of mirror involves the use of



Fehling's reagent



Benedict's reagent



Tollen's reagent



Bayer's reagent





3/5



5 min



Hint

Q Which of the following shown silver mirror test



Diethyl ether



Ethyl alcohol



Propanal



Acetone





4/5



5 min



Hint

Q Benedict's solution and Fehling's solution are similar in all of the following except



Both contain CuSO_4



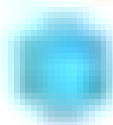
Both contain NaOH



Both contain Cu^{2+} ions as oxidizing agent



Sodium citrate is used in Benedict's solution while Rochelle salt in Fehling's solution





5/5



5 min



Hint

Q . Fehling's solution is



Ammonical AgNO_3



Alkaline cupric tartarate complex ion



Alkaline cupric citrate complex ion



Sodium nitroprusside solution





Correct



Unattempted



Incorrect



1/5

Q 2,4 – Dinitrophenylhydrazine is used to identify the presence of



2,4 – Dinitrophenylhydrazine is used to identify the presence of



Alcohols



Ethers



Carbonyl compounds

Explanation

2,4 DNPH Test:

Aldehydes and ketones form a yellow or red precipitate with 2,4 dinitrophenylhydrazine solution



Correct



Unattempted



Incorrect



2/5

Q : Silvering of mirror involves the use of



Fehling's reagent



Benedict's reagent



Tollen's reagent



Bayer's reagent

Explanation

Ans: Aldehydes form silver mirror with Tollen's reagent (ammoniacal silver nitrate solution). Add Tollen's reagent to an aldehyde solution in a test tube and warm. A silver mirror is formed on the inner surface of the test tube.



Correct



Unattempted



Incorrect



3/5

Q Which of the following shown silver mirror test



Diethyl ether



Ethyl alcohol



Propanal



Acetone

Explanation

Aldehydes form silver mirror with Tollen's reagent (ammoniacal silver nitrate solution). Add Tollen's reagent to an aldehyde solution in a test tube and warm. A silver mirror is formed on the inner of the test tube.



Correct



Unattempted



Incorrect



4/5

Q Benedict's solution and Fehling's solution are similar in all of the following except



Both contain CuSO_4



Both contain NaOH



Both contain Cu^{2+} ions as oxidizing agent



Sodium citrate is used in Benedict's solution while Rochelle salt in Fehling's solution

Explanation

Fehling's Solution Test [an alkaline solution containing a cupric tartrate complex ion and

Benedict's Solution Test [an alkaline solution containing a cupric citrate complex ion



Correct



Unattempted



Incorrect



5/5

Q · Fehling's solution is



Ammonical AgNO_3



Alkaline cupric tartarate complex ion



Alkaline cupric citrate complex ion



Sodium nitroprusside solution

Explanation

Fehling's Solution Test [an alkaline solution containing a cupric tartrate complex ion]:

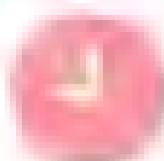


QUIZZES

Practice Test 46



5 Questions



5 min

Topics

Start Quiz



1/5



5 min



Hint

Q . Formaldehyde is used as



Silvering of mirror



Antipoliiovaccine



Formamint



All of these



2/5



5 min



Hint

Q Which of the following is used as hypnotic drug



Chloral hydrate



Ethanol tetramer



Ethanol trimer



Both a and c





3/5



5 min



Hint

Q . Bakelite is manufactured from



Paraaldehyde



Acetaldehyde



Metaformaldehyde



Formaldehyde





4/5



5 min



Hint

Q . Formalin is used as



A germicide and fungicide



An antiseptic and preservative



A disinfectant and sterilizer



All of the above





5/5



5 min



Hint

Q Which of the following is used as a slug poison



Chloral hydrate



Ethanol tetramer



Ethanal tetramer



Urotropine



Q : Formaldehyde is used as



Silvering of mirror



Antipoliiovaccine



Formamint



All of these

Explanation

Uses of formaldehyde

- It is used in the manufacture of resins like urea formaldehyde and plastics such as bakelite
- It is used in the manufacture of dyes such as Indigo, Para-rosaniline, etc
- Its 40% aqueous solution called formalin is used as an antiseptic, a disinfectant, a germicide, a fungicide and for preserving animal specimens and sterilising surgical instruments
- It is used as a decolourising agent in vat dyeing.
- It is used in the silvering of mirrors
- It is used in making medicine urotropine used as a urinary tract antiseptic
- It is used in the processing of antipoliiovaccine
- It is used in making formamint (formaldehyde + lactose) used as throat lozenges

Q · Which of the following is used as hypnotic drug



Chloral hydrate



Ethanol tetramer



Ethanol trimer



Both a and c

Explanation

Uses of acetaldehyde

- It is Used in the production of acetic acid, acetic anhydride, n-butanol, ethano , 2 Ethyl 1 hexanol, vinyl acetate, paraldehyde, ethylacetate etc.
- It is Used to make acetaldehyde ammonia, Used as a rubber accelerator
- It is Used to make chloral hydrate, ethano trimer and tetramer Chloral hydrate and ethanol trimmer are both used as hypnotic drugs where as ethanol tetramer is used as a slug poison
- It is Used as an ant septic inhalant in nasal infections
- It is Used in silvering of mirrors
- It is Used to make phenolic resins and synthetic drugs.

Q Bakelite is manufactured from



Paraaldehyde



Acetaldehyde



Metaforma dehyde



Formaldehyde

Explanation

Uses of formaldehyde

- It is Used in the manufacture of resins like urea-formaldehyde and plastics such as bakelite
- It is used in the manufacture of dyes such as Indigo, Para-rosaniline, etc.
- Its 40% aqueous solution called formalin is used as an antiseptic, a disinfectant, a germicide, a fungicide and for preserving animal specimens and sterilising surgical instruments
- It is Used as decolourising agent in vat dyeing.
- It is Used in the silvering of mirrors
- It is Used in making medicine urotropine used as a urinary tract antiseptic.
- It is Used in the processing of antipoliiovaccine
- It is Used in making formamint (formaldehyde + lactose) used as throat lozenges.

Q • Formalin is used as



A germicide and fungicide



An antiseptic and preservative



A disinfectant and sterilizer



All of the above

Explanation

Uses of formaldehyde

- It is used in the manufacture of resins like urea-formaldehyde and plastics such as bakelite
- It is used in the manufacture of dyes such as Indigo, Para-rosaniline, etc
- Its 40% aqueous solution called formalin is used as an antiseptic, a disinfectant, a germicide, a fungicide and for preserving animal specimens and sterilising surgical instruments.
- It is used as a decolourising agent in vat dyeing.
- It is used in the silvering of mirrors
- It is used in making medicine urotropine used as a urinary tract antiseptic.
- It is used in the processing of antipoliiovaccine
- It is used in making formamint (formaldehyde + lactose) used as throat lozenges.

Q · Which of the following is used as a slug poison



Chloral hydrate



Ethanol tetramer



Ethanal tetramer



Urotropine

Explanation

Uses of acetaldehyde

- It is Used in the production of acetic acid, acetic anhydride, n-butanol, ethano , 2 Ethyl 1 hexanol, vinyl acetate, paraldehyde, ethylacetate etc.
- It is Used to make acetaldehyde ammonia, Used as a rubber accelerator
- It is Used to make chloral hydrate, ethano trimer and tetramer Chloral hydrate and ethanol trimmer are both used as hypnotic drugs where as ethanol tetramer is used as a slug poison
- It is Used as an ant septic inhalant in nasa infections
- It is Used in silvering of mirrors
- It is Used to make phenolic resins and synthetic drugs.



QUIZZES

Practice Test 47



5 Questions



5 min

Topics

Genetics | Cell Biology | Biochemistry | Microbiology
Immunology | Physiology | Pathology | Pharmacology

Start Quiz



1/5



5 min



Hint

Q . Pnthalic acid is a so called



Benzoic acid



1, 3-Benzenedicarboxylic acid



1, 2 benzenedicarboxylic acid



1, 4-Benzendicarboxylic acid



2/5



5 min



Hint

Q Which of the following species contains maximum numbers of $-CH_3$ groups



Acetic acid



Propionic acid



iso-butyric acid



Formic acid





3/5



5 min



Hint

Q . A carboxylic acid contains



A hydroxy group



A carboxyl group



A hydroxy and carboxyl group



A carboxyl and an aldehydic group





4/5



5 min



Hint

Q Which of the following is not a fatty acid?



Propanoic acid



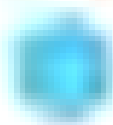
Acetic acid



Phthalic acid



Butanoic acid





5/5



5 min



Hint

Q . The formula of palmitic acid is

 $C_{15}H_{31}COOH$  $C_{15}H_{30}COOH$  $C_{17}H_{34}COOH$  $C_{17}H_{35}COOH$ 



Correct



Unattempted



Incorrect



1/5

Q · Phthalic acid is a so called



Benzoic acid



1, 3-Benzenedicarboxylic acid



1, 2 benzenedicarboxylic acid



1, 4-Benzendicarboxylic acid

Explanation

IUPAC name of phthalic acid is 1,2-benzene dicarboxylic acid



Correct



Unattempted



Incorrect



2/5

Q Which of the following species contains maximum numbers of $-CH_3$ groups



Acetic acid



Propionic acid



Iso-butyric acid



Formic acid

Explanation





Correct



Unattempted



Incorrect



3/5

Q - A carboxylic acid contains



Explanation





Correct



Incorrect



Incorrect



4/5

Q . Which of the following is not a fatty acid?



Propanoic acid



Acetic acid



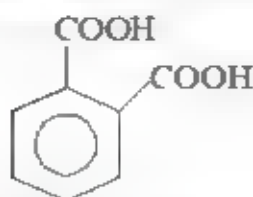
Phthalic acid



Butanoic acid

Explanation

Aliphatic monocarboxylic acid is also called fatty acid



Phthalic acid



Correct



Unattempted



Incorrect



5/5

Q · The formula of palmitic acid is



$C_{15}H_{31}COOH$



$C_{15}H_{30}COOH$



$C_{17}H_{34}COOH$



$C_{17}H_{35}COOH$

Explanation

Palmitic acid, or **hexadecanoic acid** in IUPAC nomenclature, is the most common saturated fatty **acid** found in animals, plants and microorganisms. Its chemical formula is $CH_3(CH_2)_{14}COOH$

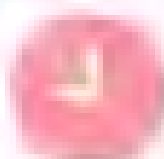


QUIZZES

Practice Test 48



5 Questions



5 min

Topics

Preparation - II

Start Quiz



1/5



5 min



Hint

Q The _____ can be oxidized to corresponding _____ having same number of carbon atom as parent compound



Primary alcohol, carboxylic acid



Ketone, carboxylic acid



Aldehydes, carboxylic acid



Both a & c



2/5

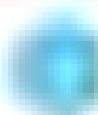


5 min



Hint

Q H_3CMgBr on treating with CO_2 in the presence of dry ether followed by acid hydrolysis

 HCOOH  $\text{H}_5\text{C}_2\text{COOH}$  H_3CCOOH  $\text{H}_7\text{C}_3\text{COOH}$ 



3/5



5 min



Hint

Q Alkyl cyanide is converted into _____ and _____ through basic hydrolysis



Carboxylic acid, ammonium salt



Salt of carboxylic acid, ammonia



Carboxylic acid, ammonia



Acid halide, carboxylic acid





4/5



5 min



Hint

Q The aliphatic monocarboxylic acids are obtained by hydrolysis of



Proteins and oils



Fats and proteins



Fats and oils



All above





5/5



5 min



Hint

Q Carboxylic acids are obtained from fats and oils by



Oxidation



Hydrolysis



Carboxylation



Decarboxylation





Correct



Unattempted



Incorrect



1/5

Q The _____ can be oxidized to corresponding having same number of carbon atom as parent compound



Primary alcohol, carboxylic acid



Ketone, carboxylic acid



Aldehydes, carboxylic acid



Both a & c

Explanation

The primary alcohol on oxidation give aldehyde which on further oxidation give carboxylic acid



Correct



Unattempted



Incorrect



2/5

Q H_3CMgBr on treatment with CO_2 in the presence of dry ether followed by acid hydrolysis



HCOOH



$\text{H}_5\text{C}_2\text{COOH}$



H_3CCOOH



$\text{H}_7\text{C}_3\text{COOH}$



Correct



Unattempted



Incorrect



3/5

Q Alkyl cyanide is converted into _____ and _____ through basic hydrolysis



Carboxylic acid, ammonium salt



Salt of carboxylic acid, ammonia



Carboxylic acid, ammonia



Acid halide, carboxylic acid

Explanation





Correct



Unattempted



Incorrect



4/5

Q The aliphatic monocarboxylic acids are obtained by hydrolysis of



Proteins and oils



Fats and proteins



Fats and oils



All above

Explanation

Aliphatic monocarboxylic acid is called as fatty acid because they obtained by hydrolysis of fat and oil



Correct



Unattempted



Incorrect



5/5

Q Carboxylic acids are obtained from fats and oils by



Oxidation



Hydrolysis



Carboxylation



Decarboxylation

Explanation

Aliphatic mono carboxylic acid is also called fatty acid because they are obtained by hydrolysis of fats and oil

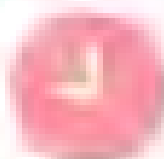


QUIZZES

Practice Test 49



5 Questions



5 min

Topics

PHYSICAL CHARACTERISTICS

Start Quiz



1/5



5 min



Hint

Q . An acid with pungent smell is



Caproic acid acid



Butyric acid



Valeric acid



Propionic acid



2/5



5 min



Hint

Q As the molecular mass increases the solubility of carboxylic acid in water



Increases



Decreases



May sometime increases



May sometimes decreases





3/5



5 min



Hint

Q In non-polar solvents like benzene the carboxylic acid exist as



Monomers



Polymers



Cyclic polymers



Cyclic dimers





4/5



5 min



Hint

Q A carboxylic acid having higher boiling point than others is

 CH_3COOH  $\text{C}_3\text{H}_7\text{COOH}$  $\text{C}_4\text{H}_9\text{COOH}$  $\text{C}_2\text{H}_5\text{COOH}$ 



5/5



5 min



Hint

Q The boiling points of carboxylic acids are _____ than their corresponding alkanes.



Low due to low molecular masses



High due to high molecular masses



High due to hydrogen bonding



Low due to weak intermolecular forces





Correct



Unattempted



Incorrect



1/5

Q · An acid with pungent smell is



Caproic acid acid



Butyric acid



Valeric acid



Propionic acid

Explanation

(i) **Smell:** The first three aliphatic acids, formic acid, acetic acid, and propionic acid are colourless liquids and have a pungent smell. The next three acids C-4 to C-6 are colourless liquids with somewhat unpleasant smell.



Incorrect



2/5

Q As the molecular mass increases, the solubility of carboxylic acid in water



Increases



Decreases



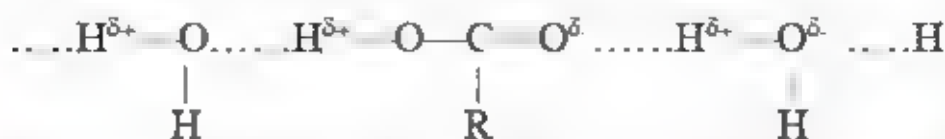
May sometime increases



May sometimes decreases

Explanation

Solubility: Among the aliphatic acids, the first four are soluble in water due to hydrogen bonding.





The solubility in water gradually decreases with the increase in molecular mass.




www.elsevier.com/locate/jmb



3/5

 Monomers Polymers Cyclic polymers

 Cyclic dimers

The diagram shows a six-membered ring structure of a cyclic hemiacetal. The ring consists of four oxygen atoms and two carbon atoms. The two carbon atoms are each bonded to an R group. The two oxygen atoms are each bonded to a hydrogen atom, and these two hydrogen atoms are connected by a dashed line, indicating a hydrogen bond. The overall structure is a cyclic hemiacetal.

Dimer of a carboxylic acid



Correct



Unattempted



Incorrect



4/5

Q A carboxylic acid having higher boiling point than others is.



CH_3COOH



$\text{C}_3\text{H}_7\text{COOH}$



$\text{C}_4\text{H}_9\text{COOH}$



$\text{C}_2\text{H}_5\text{COOH}$

Explanation

The boiling point of the carboxylic acids are relatively high due to intermolecular hydrogen bonding.



Correct



Unattempted



Incorrect



5/5

Q The boiling points of carboxylic acids are _____ than their corresponding alkanes



Low due to low molecular masses



High due to high molecular masses



High due to hydrogen bonding



Low due to weak intermolecular forces

Explanation

Alkanes are non polar and there is London dispersion force in molecules of them but carboxylic acids are polar and there is strong intermolecular force which is hydrogen bonding.



QUIZZES

Practice Test 50



5 Questions



5 min

Topics

REACTIVITY OF CARBOXYLIC GROUP

Start Quiz



QUIZZES

Practice Test 50



5 Questions



5 min

Topics

REACTIVITY OF CARBOXYLIC GROUP

Start Quiz



1/5



5 min



Hint

Q The carboxyl group displays the chemistry of



Alkyl group



Carbonyl group



Hydroxy group



Both b & c



2/5



5 min



Hint

Q In most of the reactions of carboxylic acids, the _____ group is retained



Carbonyl group



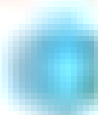
Carboxyl group



Hydroxy group



Alkyl group





3/5



5 min



Hint

Q The reactivity of carboxylic acids is a consequence of presence of



Carbonyl group



Hydroxyl group



Alkyl group



None of the above





4/5

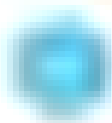


5 min



Hint

Q The hybridization of carbon in carboxyl group is

 sp^3  sp^2  sp  dsp^2 



5/5



5 min



Hint

Q The hybridization associated with oxygen atoms of carboxyl group is

 sp^3, sp^2  sp^3, sp  sp^2, sp  sp^2, sp^2 



Correct



Unattempted



Incorrect



1/5

Q The carboxyl group displays the chemistry of



Alkyl group



Carbonyl group



Hydroxy group



Both b & c



Correct



Unattempted



Incorrect



2/5

Q In most of the reactions of carboxylic acids, the _____ group is retained



Carbonyl group



Carboxyl group



Hydroxyl group



Alkyl group



Correct



Unattempted



Incorrect



3/5

Q The reactivity of carboxylic acids is a consequence of presence of



Carbonyl group



Hydroxyl group



Alkyl group



None of the above



Correct



Unattempted



Incorrect



4/5

Q The hybridization of carbon in carboxyl groups is



sp^3



sp^2



sp



dsp^2



Correct



Unattempted



Incorrect



5/5

Q The hybridization associated with oxygen atoms of carboxyl group is



sp^3, sp^2



sp^3, sp



sp^2, sp



sp^2, sp^2



QUIZZES

Practice Test 51



5 Questions



5 min

Topics

Cell Biology | Cell Structure and Function | Cell Division | Cell Metabolism | Cell Signaling

Start Quiz



1/5



5 min



Hint

Q The salt formation by carboxylic acids involves



C-O cleavage



O-H cleavage



$>\text{C}=\text{O}$ cleavage



None of the above



2/5



5 min



Hint

Q Carboxylic acid undergo the reactions involving replacement of hydroxyl group when treated with



Halides of Phosphorous



Ammonia



Alcohols



All of the above





3/5



5 min



Hint

Q Carboxylic acid on treating with carbonates or bicarbonates yields salt of carboxylic with the evolution of



CO

CO₂O₂H₂



4/5



5 min



Hint

Q $2 \text{HCOOH} + 2 \text{Na} \longrightarrow 2\text{HCOONa} +$ _____

 H_2  O_2  CO_2  CO 



5/5



5 min



Hint

Q One of the following organic compound reacts with sodium bicarbonate to produce CO_2 gas

 H_3CCOOH  H_3CCOCH_3  $\text{H}_5\text{C}_2\text{OH}$  $\text{H}_3\text{CCOOCH}_3$ 



Correct



Unattempted



Incorrect



1/5

Q The salt formation by carboxylic acids involves



C-O cleavage



O-H cleavage



>C=O cleavage



None of the above



Correct



Unattempted



Incorrect



2/5

Q Carboxylic acid undergo the reactions involving replacement of hydroxyl group when treated with



Halides of Phosphorous



Ammonia



Alcohols



All of the above



Correct



Unattempted



Incorrect



3/5

Q Carboxylic acid on treating with carbonates or bicarbonates yields salt of carboxylic with the evolution of



CO



CO₂



O₂



H₂



Correct



Unattempted



Incorrect



4/5

Q $2 \text{HCOOH} + 2 \text{Na} \longrightarrow 2\text{HCOONa} +$



H_2



O_2



CO_2



CO



Correct



Unattempted



Incorrect



5/5

Q One of the following organic compound reacts with sodium bicarbonate to produce CO_2 gas





QUIZZES

Practice Test 52



5 Questions



5 min

Topics

Re

reactions involving carboxyl group

Start Quiz



1/5



5 min



Hint

Q The by product obtained, when ammonium acetate is heated to produce acetamide

 NH_3  CO_2  N_2  H_2O



2/5



5 min



Hint

Q RCOOH when heated strongly in the presence of P_2O_5 , It yields

 $(\text{RCOO})_2\text{O}$  $(\text{RCO})_2\text{O}$  $(\text{RCOO})_2\text{O}_2$  $(\text{RCO})_2\text{O}_2$ 



3/5



5 min



Hint

Q Which reagent is used to reduce a carboxylic group to an alcohol

 H_2/Ni  H_2/Pt  NaBH_4  LiAlH_4 



4/5



5 min



Hint

Q Reverse process of esterification is called



De-esterification



Neutralization



Hydrolysis



Hydration





5/5



5 min



Hint

Q . The odour of esters are



Pungent



Suffocating



Pleasant even if derived from pungent acid



Either pungent or sweet smelling





Correct



Unattempted



Incorrect



1/5

Q The by product obtained, when ammonium acetate is heated to produce acetamide



NH_3



CO_2



N_2



H_2O



Correct



Unattempted



Incorrect



2/5

Q RCOOH when heated strongly in the presence of P_2O_5 , it yields



$(\text{RCOO})_2\text{O}$



$(\text{RCO})_2\text{O}$



$(\text{RCOO})_2\text{O}_2$



$(\text{RCO})_2\text{O}_2$



Correct



Unattempted



Incorrect



3/5

Q Which reagent is used to reduce a carboxylic group to an alcohol



H_2/Ni



H_2/Pt



$NaBH_4$



$LiAlH_4$



Correct



Unattempted



Incorrect



4/5

Q Reverse process of esterification is called



De-esterification



Neutralization



Hydrolysis



Hydration



Correct



Unattempted



Incorrect



5/5

Q · The odour of esters are



Pungent



Suffocating



Pleasant even if derived from pungent acid



Either pungent or sweet smelling



QUIZZES

Practice Test 53



5 Questions



5 min

Topics

Manufacture of acetic acid
Properties of acetic acid
Characteristics of acetic acid
Uses of acetic acid

Start Quiz



1/5



5 min



Hint

Q Ethy alcohol is commercialy prepared by the process called



Oxidation



Condensation



Esterification



Fermentation



2/5



5 min



Hint

Q Pure acetic acid freezes to ice like solid at

 8°C  39°C  25°C  17°C 



3/5



5 min



Hint

Q . Acetic acid is used as coagulant in

*Paper industry**Glass industry**Rubber industry**Plastic industry*



4/5



5 min



Hint

Q : Vinyl alcohol isomerises to _____



Ethyne



Ethanol



Ethanal



Ethanoic acid





5/5



5 min



Hint

Q Ethanol can be converted into ethanoic acid by



Hydrogenation



Hydration



Oxidation



Fermentation





Correct



Unattempted



Incorrect



1/5

Q Ethy alcohol is commercialy prepared by the process called



Oxidation



Condensation



Esterification



Fermentation



Correct



Unattempted



Incorrect



2/5

Q Pure acetic acid freezes to ice like solid at



8⁰C



39⁰C



25⁰C



17⁰C



Correct



Unattempted



Incorrect



3/5

Q - Acetic acid is used as coagulant in



Paper industry



Glass industry



Rubber industry



Plastic industry



Correct



Unattempted



Incorrect



4/5

Q · Vinyl alcohol isomerises to



Ethyne



Ethanol



Ethanal



Ethanoic acid



Correct



Unattempted



Incorrect



5/5

Q Ethanol can be converted into ethanoic acid by



Hydrogenation



Hydration



Oxidation



Fermentation



QUIZZES

Practice Test 54



5 Questions



5 min

Topics

Alkyl Halides | Alkenes | Alkynes | Aromatic Compounds |

Carbohydrates | Carboxylic Acids | Esters | Ketones |

Nitrogen Compounds | Polymers | Spectroscopy |

Reactions of amino acids

TEST 54



1/5



5 min



Hint

Q . Glycine may be classified as



A basic amino acid



An acidic amino acid



An aromatic amino acid



A neutral amino acid



2/5



5 min



Hint

Q Which of the following is not an amino acid?

*Glutamic acid*

Lactic acid



Aspartic acid



Glycine





3/5



5 min



Hint

Q . Zwitter ion exists in the form of anion in

*Alkaline medium**Acidic medium**Aqueous medium**Ethereal medium*



4/5



5 min



Hint

Q . IUPAC name of Glycine is



2-amino ethanoic acid



2-amino propanoic acid



2 amino butanoic acid

 α - amino acetic acid



5/5



5 min



Hint

Q $\text{CH}_3\text{CH}_2\text{COOH}$ on reaction with Br_2 in the presence of P yields _____, which on reaction with NH_3 produces an amino acid



2-Bromomethanoic acid



2-Bromoethanoic acid



2-Bromopropanoic acid



2-Bromobutanoic acid





Correct



Unattempted



Incorrect



1/5

Q : Glycine may be classified as



A basic amino acid



An acidic amino acid



An aromatic amino acid



A neutral amino acid



Correct



Unattempted



Incorrect



2/5

Q Which of the following is not an amino acid?



Glutamic acid



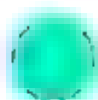
Lactic acid



Aspartic acid



Glycine



Correct



Unattempted



Incorrect



3/5

Q Zwitter ion exists in the form of anion in



Alkaline medium



Acidic medium



Aqueous medium



Ethereal medium



Correct



Unattempted



Incorrect



4/5

Q · IUPAC name of Glycine is



2-amino ethanoic acid



2 amino propanoic acid



2 amino butanoic acid



α - amino acetic acid



Correct



Unattempted



Incorrect



5/5

Q $\text{CH}_3\text{CH}_2\text{COOH}$ on reaction with Br_2 in the presence of P yields _____, which on reaction with NH_3 produces an amino acid



2 Bromomethanoic acid



2-Bromoethanoic acid



2-Bromopropanoic acid



2-Bromobutanoic acid



QUIZZES

Practice Test 55



5 Questions



5 min

Topics

STRUCTURE OF POLYMERS

Start Quiz



1/5



5 min



Hint

Q Acceptance of macromolecular hypothesis came about in



1900's



1880's



1920's



1860's



2/5



5 min



Hint

Q Two main classes of macromolecules are



Inorganic and synthetic



Organic and Biopolymers



Inorganic and Biopolymer



Inorganic and organic polymers





3/5



5 min



Hint

Q On the basis of structure, polymers may be of



Two types



Three types



Four types



Five types





4/5



5 min



Hint

Q The number of repeating units in the chain of polymer is called



Extent of polymerization



Degree of polymerization



Length of polymerization



All of the above





5/5



5 min



Hint

Q The properties of polymer depend upon



Structure of polymer



Chemical composition



Both a and b



None of above





Correct



Unattempted



Incorrect



1/5

Q Acceptance of macromolecular hypothesis came about in



1900's



1880's



1920's



1860's

Explanation

Acceptance of the macromolecular hypothesis came about in 1920's largely because of the efforts of **Staudinger**



Correct



Unattempted



Incorrect



2/5

Q Two main classes of macromolecules are



Inorganic and synthetic



Organic and Biopolymers



Inorganic and Biopolymer



Inorganic and organic polymers



Correct



Unattempted



Incorrect



3/5

Q On the basis of structure, polymers may be of



Two types



Three types



Four types



Five types

Explanation

There are three types of polymer

1- linear polymer, 2-branch polymer, 3-cross linked polymer



Correct



Unattempted



Incorrect



4/5

Q The number of repeating units in the chain of polymer is called



Extent of polymerization



Degree of polymerization



Length of polymerization



All of the above

Explanation

Degree of polymerization: The number of monomer units in a polymer chain is called

degree of polymerization (DP) The length of polymer chain is specified by its degree of

polymerization



Correct



Unattempted



Incorrect



5/5

Q The properties of polymer depend upon



Structure of polymer



Chemical composition



Both a and b



None of above



QUIZZES

Practice Test 56



5 Questions



5 min

Topics

CLASSIFICATION OF POLYMERS Homopolymer
Terpolymer

Start Quiz



1/5



5 min



Hint

Q Based on their thermal properties, polymers can be divided into



Two types



Three types



Four types



Five types



2/5



5 min



Hint

Q On the basis of type of monomers, the polymers can be divided into



Five types



Two types



Four types



Three types





3/5



5 min



Hint

Q A polymer formed by the polymerisation of a single type of monomers is called



Copolymer



Terpolymer



Homopolymer



isopolymer





4/5



5 min



Hint

Q A polymer formed by the polymerization of three different monomers is called



Copolymer



Terpolymer



Homopolymer



Crosslinked polymer





5/5



5 min



Hint

Q The polymer which becomes hard on heating and cannot be softened again are called



Synthetic polymer



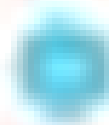
Thermoplastic polymer



Thermosetting polymer



Addition polymer





Correct



Unattempted



Incorrect



1/5

Q Based on their thermal properties, polymers can be divided into



Two types



Three types



Four types



Five types



Correct



Unattempted



Incorrect



2/5

Q On the basis of type of monomers, the polymers can be divided into



Five types



Two types



Four types



Three types

Q A polymer formed by the polymerisation of a single type of monomers is called



Copolymer



Terpolymer



Homopolymer



Isopolymer

Explanation

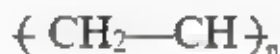
Homopolymer:

A polymer formed by the polymerization of one type of monomer is called homopolymer

Example: The polymer formed by the polymerization of vinyl acetate is homopolymer



Vinyl acetate



polyvinyl acetate (A homopolymer)

Q : A polymer formed by the polymerization of three different monomers is called



Copolymer



Terpolymer



Homopolymer



Crosslinked polymer

Explanation

Terpolymer:

A polymer formed by the polymerization of three different monomers is called a terpolymer. This polymerization reaction is carefully controlled.

Example: Combination of butyl acrylate, methyl acrylate, and acrylic acid give a highly tough polymer which serves as a weather-resistant material.



COOC_4H_9 COOCH_3 COOH
 Butyl acrylate Methyl acrylate Acrylic acid



Correct



Unattempted



Incorrect



5/5

Q The polymer which becomes hard on heating and cannot be softened again are called



Synthetic polymer



Thermoplastic polymer



Thermosetting polymer



Addition polymer



QUIZZES

Practice Test 57



5 Questions



5 min

Topics

POLYMERIZATION PROCESS Addition

polymerization

Start Quiz



1/5



5 min



Hint

Q . Addition polymerization is



Free radical addition



Cationic addition



Anionic addition



All of these



2/5



5 min



Hint

Q In which of these processes are small organic molecules made into macromolecules



The cracking of petroleum fractions



The fractional distillation of crude oil



The polymerization of ethene



The hydrolysis of proteins





3/5



5 min



Hint

Q . Polystyrene is the type of



Addition polymer



Condensation polymer



Both a and b



None of these





4/5



5 min



Hint

Q . Addition polymerization requires



Free radical



Cationic



Anion c



More than one functiona. group





5/5



5 min



Hint

Q Which one of the following is a condensation polymer?



Polystyrene



PVC



Polyethene



Nylon 6,6





Incorrect



1/5

Q : Addition polymerization is



Free radical addition



Cationic addition



Anionic addition



All of these

Explanation

A polymerization process in which monomers just add up without the removal of smaller molecules is called Addition polymer

It is a free-radical addition reaction which involves

(i) Initiation (ii) Propagation (iii) Termination

Example: Polymerization of styrene is an example of addition polymers.



Correct



Unattempted



Incorrect



2/5

Q In which of these processes are small organic molecules made into macromolecules



The cracking of petroleum fractions



The fractional distillation of crude oil



The polymerization of ethene



The hydrolysis of proteins



Incorrect



3/5

Q . Polystyrene is the type of



Addition polymer



Condensation polymer



Both a and b

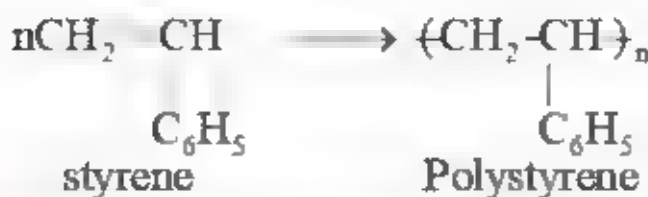


None of these

Explanation

It is the polymer of styrene (vinyl benzene)

It is also an addition polymer and is obtained by the polymerization of styrene in the presence of a catalyst





Incorrect



4/5

Q : Addition polymerization requires



Free radical



Cationic



Anion c



More than one functiona group

Explanation

Addition polymerization:

A polymerization process in which monomers just add up without the removal of smaller molecules is called Addition polymer

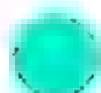
It is a free-radical addition reaction which involves

(i) Initiation

(ii) Propagation

(iii) Termination

Example: Polymerization of styrene is an example of addition polymers.



Correct



Unattempted



Incorrect



5/5

Q . Which one of the following is a condensation polymer?



Polystyrene



PVC



Polyethene



Nylon 6,6

Explanation

A condensation polymer of diamine and aliphatic dicarboxylic acid is called polyamide or polyamide resin since it contains amide linkages. This polymer is also called nylon.

The polymer of hexamethylene diamine (6C) and adipic acid (6C) is called **Nylon-6,6**.



QUIZZES

Practice Test 58



5 Questions



5 min

Topics

Synthetic polymers - synthetic polymers - I

Start Quiz



1/5



5 min



Hint

Q The polymer used in floor covering, pipes and gramophones



Polystyrene



PVA



PVC



Nylon 6,6



2/5



5 min



Hint

Q In the manufacturing of polystyrene, the plasticizers are added to



Increase hardness of polymer



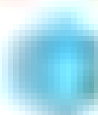
Improve flexibility



Develop insulation properties in polymer



All of above





3/5



5 min



Hint

Q Which of following polymers is a synthetic polymer



Animal fat



Polyester



Starch



Cellulose





4/5



5 min



Hint

Q Which one of the following is not a synthetic polymer



Animal fat



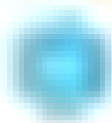
Cellulose



Starch



All of these





5/5



5 min



Hint

Q Which of these polymers is an example of addition polymer?



Nylon-6,6



Polystyrene



Terylene



Epoxy resin



Q : The polymer used in floor covering, pipes and gramophones



Polystyrene



PVA



PVC



Nylon 6,6

Explanation

(1) Polyvinyl Chloride (PVC):

This is the polymer of vinyl chloride

It is an addition polymer obtained by polymerizing vinyl chloride at 52°C and 9 atm pressure

Plasticizer: Addition of a plasticizer improves the flexibility of the polymer.

Uses: It is widely used in

- Floor coverings
- Pipes

Gramophone recorders etc.



Correct



Unattempted



Incorrect



2/5

Q In the manufacturing of polystyrene, the plasticizers are added to



increase hardness of polymer



improve flexibility



Develop insulation properties in polymer



All of above

Explanation

In the manufacturing of polystyrene, the plasticizers are added to improve flexibility



Correct



Unattempted



Incorrect



3/5

Q Which of following polymers is a synthetic polymer



Animal fat



Polyester



Starch



Cellulose



Correct



Unattempted



Incorrect



4/5

Q Which one of the following is not a synthetic polymer



Animal fat



Cel,ulose



Starch



All of these

Explanation

All of these are naturally occurring macro molecules



Correct



Unattempted



Incorrect



5/5

Q Which of these polymers is an example of addition polymer?



Nylon-6,6



Polystyrene



Terylene



Epoxy resin



QUIZZES

Practice Test 59



5 Questions



5 min

Topics

1. Carbohydrates and

2. Carbohydrates and

3. Carbohydrates and

4. Carbohydrates and

5. Carbohydrates and

Start Quiz



1/5



5 min



Hint

Q A carbohydrate which cannot be hydrolyzed is



Monosaccharide



Disaccharide



Starch



Polysaccharide



2/5



5 min



Hint

Q . The molecular formula of Raffinose is

 $C_{16}H_{34}O_{14}$  $C_{18}H_{36}O_{18}$  $C_{18}H_{32}O_{16}$  $C_{20}H_{40}O_{20}$ 



3/5



5 min



Hint

Q The main structural feature of protein is



Ester linkage



Peptide linkage



Ether linkages



Glycosidic linkage





4/5



5 min



Hint

Q In which form glucose is stored in the liver



Lactic acid



Maltose



Ribose



Glycogen





5/5



5 min



Hint

Q . Which is not a polymer



Starch



Glucose



Protein



Nylon





Correct



Unattempted



Incorrect



1/5

Q A carbohydrate which cannot be hydrolyzed is



Monosaccharide



Disaccharide



Starch



Polysaccharide

Explanation

Monosaccharides:

- These are simple sugars which cannot be hydrolyzed
- They have an empirical formula $(CH_2O)_n$ where $n = 3$ or some large number

Common examples are glyceraldehydes, glucose, fructose, etc



Correct



Unattempted



Incorrect



2/5

Q The molecular formula of Raffinose is



$C_{16}H_{34}O_{14}$



$C_{18}H_{36}O_{18}$



$C_{18}H_{32}O_{16}$



$C_{20}H_{40}O_{20}$

Explanation

The carbohydrates which yield three monosaccharide molecules on hydrolysis are called trisaccharides and have molecular formula $C_{18}H_{32}O_{16}$.



Correct



Unattempted



Incorrect



3/5

Q The main structural feature of protein is



Ester linkage



Peptide linkage



Ether linkages



Glycosidic linkage

Explanation

- The majority of proteins are compact highly convoluted molecules with the position of each atom relative to the other determined with great precision.
- To describe the structure of a protein in an organism it is necessary to specify the three-dimensional shape that the polypeptide chain assumes.



Correct



Unattempted



Incorrect



4/5

Q In which form glucose is stored in the liver



Lactic acid



Maltose



Ribose



Glycogen



Correct



Unattempted



Incorrect



5/5

Q · Which is not a polymer



Starch



Glucose



Protein



Nylon



QUIZZES

Practice Test 60



5 Questions



5 min

Topics

_____ | _____ | _____
_____ | _____ | _____

number

Start Quiz



1/5



5 min



Hint

Q The amount of free fatty acids in a fat or oil is measured as



Acid number



Iodine number



Saponification number



Go d number



2/5



5 min



Hint

Q Degree of unsaturation of fat or oils measured as



Fat number



Acid number



Iodine number



Saponification number





3/5



5 min



Hint

Q The degree of unsaturation of the constituent fatty acid determines



Physical state



Acidity



Chemical reactivity



None of these





4/5



5 min



Hint

Q Which of the following is unsaturated fatty acid



Malonic acid



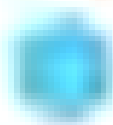
Stearic acid



Palmitic acid



Oleic acid





5/5



5 min



Hint

Q

The reaction between a fat and NaOH is called



Esterification



Hydrogenolysis



Fermentation



Saponification





Correct



Unattempted



Incorrect



1/5

Q The amount of free fatty acids in a fat or oil is measured as



Acid number



Iodine number



Saponification number



Gold number

Explanation

- The acid number of a fat or an oil tells the amount of free fatty acids present in it.

It is expressed as the number of milligrams of potassium hydroxide required to neutralize one gram of fat.



Correct



Unattempted



Incorrect



2/5

Q Degree of unsaturation of fat or oil s measured as



Fat number



Acid number



Iodine number



Saponification number



Correct



Unattempted



Incorrect



3/5

Q The degree of unsaturation of the constituent fatty acid determines



Physical state



Acidity



Chemical reactivity



None of these

Explanation

The degree of unsaturation of the constituent fatty acid determines whether a triglyceride will be a solid or a liquid



Incorrect



4/5

Q Which of the following is unsaturated fatty acid



Malonic acid



Stearic acid

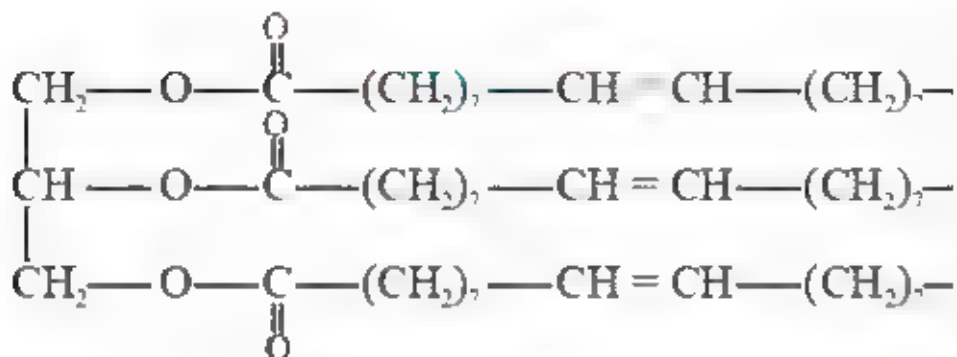


Palmitic acid



Oleic acid

Explanation



Glyceryl trioleate (an oil)



Correct



Unattempted



Incorrect



5/5

Q.

The reaction between a fat and NaOH is called



Esterification



Hydrogenolysis



Fermentation



Saponification



QUIZZES

Practice Test 61



5 Questions



5 min

Topics

Enzymes, Properties of enzyme Importance of enzyme
of enzyme Nucleic Acids Components of

Start Quiz



1/5



5 min



Hint

Q The protein part of an enzyme is called



Apoenzyme



Co-enzyme



Cofactor



Act vator



2/5



5 min



Hint

Q The non-protein part of an enzyme is called



Co-enzyme



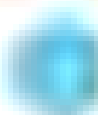
Apoenzyme



Act vator



Substrate





3/5



5 min



Hint

Q

DNA is responsible for



Heredity



Reproduction



Inheritance



Multiplication





4/5



5 min



Hint

Q The enzyme used to locally stop the blood from wounds



Insulin



L-asparaginase



Thrombin



Zymase





5/5



5 min



Hint

Q The Nitrogeous base not present in RNA is



Cytosin



Aden ne



Thiamine



Uracil





Correct



Unattempted



Incorrect



1/5

Q The protein part of an enzyme is called



Apoenzyme



Co-enzyme



Cofactor



Act vator

Explanation

The protein component of the enzyme is called **apo-enzyme** and the non-protein component is called the **co-enzyme**



Correct



Unattempted



Incorrect



2/5

Q The non-protein part of an enzyme is called



Co-enzyme



Apoenzyme



Act vator



Substrate

Explanation

The protein component of the enzyme is called **apo-enzyme** and the non-protein component is called the **co-enzyme**



Correct



Unattempted



Incorrect



3/5

Q

DNA is responsible for



Heredity



Reproduction



Inheritance



Multiplication

Explanation

Deoxyribonucleic acid (DNA) carries the genetic information and ribonucleic acid



Correct



Unattempted



Incorrect



4/5

Q The enzyme used to locally stop the blood from wounds



insulin



L asparaginase



Thrombin



Zymase

Explanation

- Many enzymes have proved very useful as drugs.

Example: Thrombin is used locally to stop bleeding



Correct



Unattempted



Incorrect



5/5

Q The Nitrogeous base not present in RNA is



Cytosin



Aden ne



Thiamine



Uracil



QUIZZES

Practice Test 62



4 Questions



5 min

Topics

FERTILIZERS

Start Quiz



1/4



5 min



Hint

Q The nitrogen present in some fertilizers helps plants



To fight against diseases



To produce fat



To undergo photosynthesis



To produce protein



2/4



5 min



Hint

Q . A manure is



An organic material



An inorganic material



A chemical compound



A mixture of organic and inorganic materials





3/4



5 min



Hint

Q Which element is essential for the development of stem and leaves?



Phosphorus



Calcium



Nitrogen



Boron





4/4



5 min



Hint

Q The acidity caused by nitrogen fertilizers can easily be controlled by the



Addition of excessive water



Addition of gypsum at regular intervals



Addition of milk of magnesia at regular intervals



Addition of lime at regular intervals





Correct



Unattempted



Incorrect



1/4

Q The nitrogen present in some fertilizers helps plants



To fight against diseases



To produce fat



To undergo photosynthesis



To produce protein

Explanation

Nitrogen is so vital because it is a major component of chlorophyll, the compound by which **plants** use sunlight energy to **produce** sugars from water and carbon dioxide (i.e. photosynthesis). It is also a major component of amino acids, the building blocks of **proteins**. Without **proteins**, **plants** wither and die.



Correct



Unattempted



Incorrect



2/4

Q · A manure is



An organic material



An inorganic material



A chemical compound



A mixture of organic and inorganic materials

Explanation

Manure is organic matter that is used as organic fertilizer in agriculture. Most manure consists of animal feces; other sources include compost and green manure.



Correct



Unattempted



Incorrect



3/4

Q Which element is essential for the development of stem and leaves?



Phosphorus



Calcium



Nitrogen



Boron

Explanation

- Nitrogen is the main constituent of proteins
- It imparts green colour to the leaves

It enhances the yield and quality of the plant



Correct



Unattempted



Incorrect



4/4

Q The acidity caused by nitrogen fertilizers can easily be controlled by the



Addition of excessive water



Addition of gypsum at regular intervals



Addition of milk of magnesia at regular intervals



Addition of lime at regular intervals



QUIZZES

Practice Test 63



5 Questions



5 min

Topics

1. Carbohydrates 2. Lipids 3. Proteins 4. Vitamins 5. Minerals

Macro nutrients Micro nutrients

Start Quiz



1/5



5 min



Hint

Q The three elements needed for the healthy growth of plants are



N,S,P



N,Ca,P



N,P,K



N,K,C



2/5



5 min



Hint

Q . Macronutrient for soil is

 N_2 

Cu



Zn



Fe





3/5



5 min



Hint

Q The elements which are essential for plant growth can be classified into



Three types



Four types



Two types



Five types





4/5



5 min



Hint

Q The macronutrients for plant are those which



Are required in very large amount



Are produced from plants in very small amounts



Are required in very small amount



Retard the growth of plants





5/5



5 min



Hint

Q Which of two non-metals are included in micronutrients



Carbon and Bromine



Hydrogen and oxygen



Boron and chlorine



Nitrogen and phosphorus





Incorrect



1/5

Q The three elements needed for the healthy growth of plants are



N,S,P



N,Ca,P



N,P,K



N,K,C

Explanation

A nutrient which is required in large quantities for normal growth of plants is called macronutrient.

Examples.

(i) Nitrogen
Calcium

(ii) Phosphorus

(iii) Potassium

(iv)

(v) Magnesium
Hydrogen

(vi) Sulphur

(vii) Carbon

(viii)

(ix) Oxygen

Incorrect

2/5

Q . Macronutrient for soil is

N_2

Cu

Zn

Fe

Explanation

Nutrients which are required in small amount for normal growth of plants are called micronutrients

Examples:

(i) Boron
Manganese

(ii) Copper

(iii) Iron

(iv)

(v) Zinc

(vi) Molybdenum

(vii) Chlorine



Incorrect



3/5

Q The elements which are essential for plant growth can be classified into



Three types



Four types



Two types



Five types

Explanation

Elements required for the normal growth of plants are called **nutrients**. Plants need nutrients from the soil for the healthy growth.

Types of nutrients:

(i) Micro nutrient

Macro nutrient

Q . The macronutrients for plant are those which



Are required in very large amount



Are produced from plants in very small amounts



Are required in very small amount



Retard the growth of plants

Explanation

A nutrient which is required in large quantities for normal growth of plants is called macronutrient.

Examples.

(i) Nitrogen
Calcium

(ii) Phosphorus

(iii) Potassium

(iv)

(v) Magnesium
Hydrogen

(vi) Sulphur

(vii) Carbon

(viii)

(ix) Oxygen

They are generally required in quantities ranging from 5kg to 200kg per acre of the land



Incorrect



5/5

Q . Which of two non-metals are included in micronutrients



Carbon and Bromine



Hydrogen and oxygen



Boron and chlorine



Nitrogen and phosphorus

Explanation

Nutrients which are required in small amount for normal growth of plants are called micronutrients

Examples:

(i) Boron
Manganese

(ii) Copper

(iii) Iron

(iv)

(v) Zinc

(vi) Molybdenum

(vii) Chlorine



Incorrect



1/5

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N,S,P



N,Ca,P



N,P,K



N,K,C

Explanation

A nutrient which is required in large quantities for normal growth of plants is called macronutrient.

Examples.

(i) Nitrogen
Calcium

(ii) Phosphorus

(iii) Potassium

(iv)

(v) Magnesium
Hydrogen

(vi) Sulphur

(vii) Carbon

(viii)

(ix) Oxygen



Incorrect



2/5

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N_2



Cu



Zn



Fe

Explanation

Nutrients which are required in small amount for normal growth of plants are called micronutrients

Examples:

(i) Boron
Manganese

(ii) Copper

(iii) Iron

(iv)

(v) Zinc

(vi) Molybdenum

(vii) Chlorine



Incorrect



3/5

Q The elements which are essential for plant growth can be classified into



Three types



Four types



Two types



Five types

Explanation

Elements required for the normal growth of plants are called **nutrients**. Plants need nutrients from the soil for the healthy growth.

Types of nutrients:

(i) Micro nutrient

Macro nutrient

Q . The macronutrients for plant are those which



Are required in very large amount



Are produced from plants in very small amounts



Are required in very small amount



Retard the growth of plants

Explanation

A nutrient which is required in large quantities for normal growth of plants is called macronutrient.

Examples.

(i) Nitrogen
Calcium

(ii) Phosphorus

(iii) Potassium

(iv)

(v) Magnesium
Hydrogen

(vi) Sulphur

(vii) Carbon

(viii)

(ix) Oxygen

They are generally required in quantities ranging from 5kg to 200kg per acre of the land



Incorrect



5/5

Q . Which of two non-metals are included in micronutrients



Carbon and Bromine



Hydrogen and oxygen



Boron and chlorine



Nitrogen and phosphorus

Explanation

Nutrients which are required in small amount for normal growth of plants are called micronutrients

Examples:

(i) Boron
Manganese

(ii) Copper

(iii) Iron

(iv)

(v) Zinc

(vi) Molybdenum

(vii) Chlorine



QUIZZES

Practice Test 64



5 Questions



5 min

Topics

Ammonium nitrate

Ammonium nitrate

Start Quiz



1/5



5 min



Hint

Q Ammonium nitrate fertilizer is not used for which crops?



Cotton



Wheat



Sugarcane



Paddy rice



2/5



5 min



Hint

Q Which one of the following is a high quality nitrogenous fertilizer?



Ammonia



Urea



Ammonium nitrate



Ammonium sulphate





3/5



5 min



Hint

Q Which fertilizer is used in liquid state?



Ammonium nitrate



Ammonia



Calcium ammonium sulphate



Ammonium phosphate





4/5



5 min



Hint

Q Which one of the following fertilizers makes the soil acidic?



Calcium nitrate



Sodium nitrate



Potassium nitrate



Ammonium nitrate





5/5



5 min



Hint

Q In evaporation chamber, water is removed from urea solution by heating it with



Steam at high pressure



Steam under vacuum



Steam at moderate pressure



Direct flame





Correct



Unattempted



Incorrect



1/5

Q Ammonium nitrate fertilizer is not used for which crops?



Cotton



Wheat



Sugarcane



Paddy rice



Incorrect



2/5

Q : Which one of the following is a high quality nitrogenous fertilizer?



Ammonia



Urea



Ammonium nitrate



Ammonium sulphate

Explanation

Urea

- It is high quality nitrogenous fertilizer.
- It is most widely used nitrogen fertilizer in Pakistan
- It is most concentrated solid nitrogen fertilizer

% of Nitrogen

It contains 46% nitrogen.



Correct



Unattempted



Incorrect



3/5

Q Which fertilizer is used in liquid state?



Ammonium nitrate



Ammonia



Calcium ammonium sulphate



Ammonium phosphate



Correct



Unattempted



Incorrect



4/5

Q Which one of the following fertilizers makes the soil acidic?



Calcium nitrate



Sodium nitrate



Potassium nitrate



Ammonium nitrate



Correct



Unattempted



Incorrect



5/5

Q In evaporation chamber, water is removed from urea solution by heating it with



Steam at high pressure



Steam under vacuum



Steam at moderate pressure



Direct flame

Explanation

The urea solution is concentrated in an evaporation section where water is evaporated by heating with steam under vacuum in two evaporation stages.



QUIZZES

Practice Test 65



5 Questions



5 min

Topics

nitrate Fertilizers industries in Pak

Start Quiz



1/5



5 min



Hint

Q Zones through which the charge passes in a rotary k'l'n



5



4



3



2



2/5



5 min



Hint

Q The percentage of nitrogen in diammonium phosphate is



16%



20%



18%



48%



3/5



5 min



Hint

Q Potassium is required for the formation of



Starch



Sugar



Fibrous material of the plant



All of above





4/5



5 min



Hint

Q How many fertilizer plants in private as well as public sectors are manufacturing different types of fertilizers in the country?



12



14



10



16





5/5



5 min



Hint

Q . Potassium nitrate is obtained as



Pale yellow solid



White solid



Bluish white solid



Greenish blue solid



Q Zones through which the charge passes in a rotary kiln



5



4



3



2

Explanation

(1) Drying or pre-heating Zone (minimum)/ temperature zone)

In this zone the temperature is kept at 500°C , where by the moisture is removed and the clay is broken into Al_2O_3 , SiO_2 , and Fe_2O_3

(2) Decomposition Zone (Moderate temperature zone)

In this zone the temperature goes upto 1500°C , In this zone the limestone (CaCO_3) decomposes into lime (CaO) and CO_2 .



(3) Burning Zone (Maximum temperature zone)

In this zone, the temperature goes up to 1500°C and the oxides, e.g. CaO , SiO_2 , Al_2O_3 and Fe_2O_3 combine together and form calcium



4



3



2

Explanation

(1) Drying or pre-heating Zone (minimum)/ temperature zone)

In this zone the temperature is kept at 500°C , where by the moisture is removed and the clay is broken into Al_2O_3 , SiO_2 , and Fe_2O_3

(2) Decomposition Zone (Moderate temperature zone)

In this zone the temperature goes upto 1500°C , In this zone the limestone (CaCO_3) decomposes into lime (CaO) and CO_2



(3) Burning Zone (Maximum temperature zone)

In this zone, the temperature goes up to 1500°C and the oxides, e.g. CaO , SiO_2 , Al_2O_3 and Fe_2O_3 combine together and form calcium silicate, calcium aluminate and calcium ferrite

(4) Cooling Zone

This is the last stage in the kiln where the charge is cooled up to $150\text{--}200^{\circ}\text{C}$



Incorrect



2/5

Q The percentage of nitrogen in diammonium phosphate is



16%



20%



18%



48%

Explanation

DIAMMONIUM PHOSPHATE $(\text{NH}_4)_2\text{HPO}_4$

- It contains about 75% plant nutrients
- It is deemed suitable for use either alone or in mixed with other fertilizers

% of Nitrogen

It contains 16% nitrogen.



Correct



Unattempted



Incorrect



3/5

Q Potassium is required for the formation of



Starch



Sugar



Fibrous material of the plant



All of above



Correct



Unattempted



Incorrect



4/5

Q How many fertilizer plants in private as well as public sectors are manufacturing different types of fertilizers in the country?



12



14



10



16

Explanation

At present there are in about 14 fertilizers plants in private as well as public sector in the country which are manufacturing different types of fertilizers. The total production of urea fertilizer in 2002 in Pakistan is about 56 30,100 metric tons/annum



Correct



Unattempted



Incorrect



5/5

Q · Potassium nitrate is obtained as



Pale yellow solid



White solid



Bluish white solid



Greenish blue solid

Explanation

Potassium Nitrate (KNO_3)

- It is pale yellow solid
- % of Nitrogen
- It contains 13% nitrogen



QUIZZES

Practice Test 66



5 Questions



5 min

Topics

CEMENT INDUSTRY Raw materials

[Start Quiz](#)



1/5



5 min



Hint

Q One of the following is argillaceous material



Marble



Clay



Lime



Marine shell



2/5



5 min



Hint

Q The percentage of silica (SiO_2) in Portland cement is



12%



22%



32%



42%





3/5



5 min



Hint

Q In what proportion powdered limestone and clay is mixed



35% limestone, 65% clay



65% limestone, 35% clay



55% limestone, 15% clay



75% limestone, 25% clay





4/5



5 min



Hint

Q In which zone of rotary kiln decomposition of limestone takes place



Burning zone



Moderate temperature



Cooling zone



Drying or pre-heating zone





5/5



5 min



Hint

Q In which zone of rotary kiln, the moisture is removed and the clay is broken into Al_2O_3 , SiO_2 and Fe_2O_3 ?



Minimum temperature zone



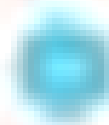
Drying zone



Pre-heating zone



All of given





Correct



Unattempted



Incorrect



1/5

Q One of the following is argillaceous material



Marble



Clay



Lime



Marine shell



Correct



Unattempted



Incorrect



2/5

Q The percentage of silica (SiO_2) in Portland cement is



12%



22%



32%



42%



Correct



Unattempted



Incorrect



3/5

Q In what proportion powdered limestone and clay is mixed



35% limestone, 65% clay



65% limestone, 35% clay



55% limestone, 15% clay



75% limestone, 25% clay



Correct



Unattempted



Incorrect



4/5

Q In which zone of rotary kiln decomposition of limestone takes place



Burning zone



Moderate temperature



Cooling zone



Drying or pre-heating zone



Correct



Unattempted



Incorrect



5/5

Q In which zone of rotary kiln, the moisture is removed and the clay is broken into Al_2O_3 , SiO_2 and Fe_2O_3 ?



Minimum temperature zone



Drying zone



Pre-heating zone



All of given

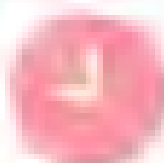


QUIZZES

Practice Test 67



5 Questions



5 min

Topics

Start Quiz



1/5



5 min



Hint

Q During the manufacturing process of cement the temperature of the decomposition zone goes up to



600°C



800°C



1000°C



1200°C



2/5



5 min



Hint

Q How many zones through which the charge passes in a rotary kiln?



4



3



2



5





3/5



5 min



Hint

Q The charge present in rotatory kiln completes journey in



2-3 hours



3-4 hours



4-5 hours



5-6 hours





4/5



5 min



Hint

Q The production of cement per annum in Pakistan is



9578802 metric tons



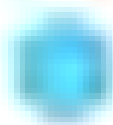
8467701 metric tons



6356600 metric tons



5245500 metric tons





5/5



5 min



Hint

Q

A short time after the cement is mixed with water, tricalcium aluminate absorbs water and forms a colloidal gel of the composition





Correct



Unattempted



Incorrect



1/5

Q During the manufacturing process of cement the temperature of the decomposition zone goes up to



600°C



800°C



1000°C



1200°C



Correct



Unattempted



Incorrect



2/5

Q How many zones through which the charge passes in a rotary kiln?



4



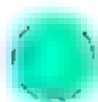
3



2



5



Correct



Unattempted



Incorrect



3/5

Q The charge present in rotatory kiln completes journey in



2-3 hours



3-4 hours



4-5 hours



5-6 hours



Correct



Unattempted



Incorrect



4/5

Q The production of cement per annum in Pakistan is



9578802 metric tons



8467701 metric tons



6356600 metric tons



5245500 metric tons

Explanation

At present there are 22 factories in private as well as public sector. Some of the factories work on the basis of wet process and other dry process. The total production of 22 cement plants is 9,578,802 metric tons / year.



Correct



Unattempted



Incorrect



5/5

Q

A short time after the cement is mixed with water tri-calcium aluminate absorbs water and forms a colloidal gel of the composition



Explanation

A short time after the cement is mixed with water tri-calcium aluminate absorbs water (hydration) and forms a colloidal gel of the composition, $3\text{Ca} \cdot \text{Al}_2\text{O}_3 \cdot 6\text{H}_2\text{O}$, (hydrated tri-calcium aluminate)

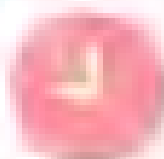


QUIZZES

Practice Test 68



5 Questions



5 min

Topics

General Knowledge | Biology | Chemistry | Physics | English

Start Quiz



1/5



5 min



Hint

Q Which woody raw material is used for the manufacture of paper pulp?



Cotton



Bagasse



Poplar



Rice straw



2/5



5 min



Hint

Q The word paper is derived from the name of which reedy plant



Rose



Sun flower



Papyrus



Water Hyacinth





3/5



5 min



Hint

Q Essential steps for the manufacture of paper pulp and paper by NSSC

1111



Five



Two



Ten



One





4/5



5 min



Hint

Q . The oldest industry known to man is



Agr culture



Chemical



Cement



Metallurgy





5/5



5 min



Hint

Q Essential steps for the manufacture of paper pulp and paper by NSSC

111



Five



Two



Ten



One





Incorrect



1/5

Q Which woody raw material is used for the manufacture of paper pulp?



Cotton



Bagasse



Poplar



Rice straw

Explanation

Non woody Raw Materials

- (i) Wheat straw
Stalk
- (ii) Rice straw
linter
- (iii) Bagasse
grass
- (iv) Bamboo
- (v) Rag

(vi) Cotton

(vii) Cotton

(viii) Kahi

(ix) Grasses

Woody Raw Materials

- (i) Poplar (hard wood)
- (ii) Eucalyptus (hard
wood)
- (iii) Douglas fir (soft
wood)



Correct



Unattempted



Incorrect



2/5

Q The word paper is derived from the name of which reedy plant



Rose



Sun flower



Papyrus



Water Hyacinth

Explanation

The word 'paper' is derived from the name of a reedy plant "Papyrus" which grow abundantly along the marshy delta of river Nile in Egypt around 3000 BC



Correct



Unattempted



Incorrect



3/5

Q Essential steps for the manufacture of paper pulp and paper by NSSC are



Five



Two



Ten



One

Explanation

Essential steps for the manufacture of paper pulp and paper by NSSC are ten



Correct



Unattempted



Incorrect



4/5

Q · The oldest industry known to man is



Agriculture



Chemical



Cement



Metallurgy

Explanation

Agriculture is the oldest industry known to man. Early man used manure as a fertilizer in their fields.



Correct



Unattempted



Incorrect



5/5

Q Essential steps for the manufacture of paper pulp and paper by NSSC
are



Five



Two



Ten



One



QUIZZES

Practice Test 69



5 Questions



5 min

Topics

Neutral sulphite
chemical process
chemical

Start Quiz



1/5



5 min



Hint

Q Which woody raw material is used for the manufacture of paper pulp?



Cotton



Bagasse



Poplar



Rice straw



2/5



5 min



Hint

Q Woody Raw material for paper pulp is obtained from



Cotton



Bagasse



Douglas fir



Rice Straw





3/5



5 min



Hint

Q In the dryer section water is separated from fibre by



Gravity



Suction



Pressing



All of the above





4/5



5 min



Hint

Q Principal methods used for chemical pulping and production of paper pulps are



Kraft process



Sulphite process



Neutral sulphite semi-chemical process



All of the above





5/5



5 min



Hint

Q Stock preparation is carried out in ____ steps



Five



Two



Ten



Three





Incorrect



1/5

Q Which woody raw material is used for the manufacture of paper pulp?



Cotton



Bagasse



Poplar



Rice straw

Explanation

Non woody Raw Materials

- (i) Wheat straw
Stalk
- (ii) Rice straw
linter
- (iii) Bagasse
grass
- (iv) Bamboo
- (v) Rag

(vi) Cotton

(vii) Cotton

(viii) Kahi

(ix) Grasses

Woody Raw Materials

- (i) Poplar (hard wood)
- (ii) Eucalyptus (hard
wood)
- (iii) Douglas fir (soft
wood)



Incorrect



2/5

Q Woody Raw material for paper pulp is obtained from



Cotton



Bagasse



Douglas fir



Rice Straw

Explanation

Non woody Raw Materials

- (i) Wheat straw
Stalk
- (ii) Rice straw
linter
- (iii) Bagasse
grass
- (iv) Bamboo
- (v) Rag

(vi) Cotton

(vii) Cotton

(viii) Kahi

(ix) Grasses

Woody Raw Materials

- (i) Poplar (hard wood)
- (ii) Eucalyptus (hard
wood)
- (iii) Douglas fir (soft
wood)



Correct



Unattempted



Incorrect



3/5

Q . In the dryer section water is separated from fibre by



Gravity



Suction



Pressing



All of the above

Explanation

Dryer Section

Wet sheet of paper so formed is dried in the dryer section of the machine with the help of rotary drum. Water is separated from the fibre either by gravity, by suction or by pressing and by heating.



Incorrect



4/5

Q Principal methods used for chemical pulping and production of paper pulps are



Kraft process



Sulphite process



Neutral sulphite semi-chemical process



All of the above

Explanation

The following are three principal methods of chemical pulping and are used for the production of paper pulps

(1) Kraft process (Alkaline)

(2) Sulphite process (Acidic)

(3) Neutral sulphite semi-chemical process (NSSC)

Q Stock preparation is carried out in _____ steps



Five



Two



Ten



Three

Explanation

Stock Preparation Plant

There are three important stages in the treatment of the pulp prior to its delivery to the paper making machine

- (i) Dispersion of the pulp as slurry in water
- (ii) Mechanical refining or beating of the fibres to develop appropriate physical and mechanical properties.
- (iii) Addition of chemical additives
- (iv) Recycling of fibers from the waste paper plant



QUIZZES

Practice Test 70



5 Questions



5 min

Topics

of environment -I, Compone
environment-II

Start Quiz



1/5



5 min



Hint

Q That part of environment which consist of rocky crust of earth is called



Atmosphere



Lithosphere



B osphere



None of given



2/5



5 min



Hint

Q The element present in greatest proportion on earth crust is



Magnesium



Nitrogen



Oxygen



Iron





3/5



5 min



Hint

Q The branch of chemistry which deals with the study of chemicals and other pollutants in the environment is called



Physical chemistry



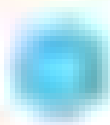
Space chemistry



Environmental chemistry



Industrial chemistry





4/5



5 min



Hint

Q The po ar ice caps and glaciers consist of how much part of earths total water supply



3%



2%



4 %



5%





5/5



5 min



Hint

Q The fresh water which is being used by industry is



13%



33%



43%



23%





Incorrect



1/5

Q That part of environment which consist of rocky crust of earth is called



Atmosphere



Lithosphere



B osphere



None of given

Explanation

The component of the environment which includes the region of earth capable of support ng life s called b osphere

Biosphere consists of

(i) Lower atmosphere
Rivers

(ii) Oceans

(iii)

(iv) Lakes

(v) Soils

(vi) Solid sediments

Q · The element present in greatest proportion on earth crust is



Magnesium



Nitrogen



Oxygen



Iron

Explanation

They are the heavier interior of earth making up most of the earth's mass. 99.5% mass of lithosphere consists of the following elements

(i)	Na	=	2.83 %
(ii)	K	=	2.59 %
(iii)	Mg	=	2.09 %
(iv)	Ca	=	3.63 %
(v)	Al	=	8.13 %
(vi)	Si	=	27.72 %
(vii)	O ₂	=	46.6 %
(viii)	Fe	=	5 %



Magnesium



Nitrogen



Oxygen



Iron

Explanation

They are the heavier interior of earth making up most of the earth's mass 99.5% mass of lithosphere consists of eleven elements

(i)	Na	=	2.83 %
(ii)	K	=	2.59 %
(iii)	Mg	=	2.09 %
(iv)	Ca	=	3.63 %
(v)	Al	=	8.13 %
(vi)	Si	=	27.72 %
(vii)	O ₂	=	46.6 %
(viii)	Fe	=	5 %
(ix)	Ti, H ₂ and P	=	less than 1 %



Correct



Unattempted



Incorrect



3/5

Q The branch of chemistry which deals with the study of chemicals and other pollutants in the environment is called



Physical chemistry



Space chemistry



Environmental chemistry



Industrial chemistry

Explanation

The branch of chemistry which deals with the study of chemicals and other pollutants in the environment is called Environmental chemistry



Correct



Unattempted



Incorrect



4/5

Q The polar ice caps and glaciers consist of how much part of earth's total water supply



3%



2%



4%



5%

Explanation

Glaciers and polar Ice Caps:

They consist of 2% of the earth's total water

Q The fresh water which is being used by industry is



13%



33%



43%



23%

Explanation

Fresh water:

Only 1% of earth's total water which is fit for human use is called **fresh water**. The sources of fresh water are

- (i) Surface water (ii) River (iii) Lake (iv) Stream (v) Ground water

Use of fresh water:

Fresh water is used for various purposes as follows

- (i) Agriculture 69%
(ii) Industry 23%
(iii) Domestic 8%



QUIZZES

Practice Test 71



5 Questions



5 min

Topics

General Knowledge | English | Urdu | Mathematics | Biology | Chemistry | Physics | History | Geography | Computer Science | Art | Music | Sports | Health | Environment | Social Studies | Economics | Law | Medicine | Agriculture | Engineering | Technology | Science | Literature | Languages | Philosophy | Religion | Ethics | Psychology | Sociology | Anthropology | Archaeology | Botany | Zoology | Geology | Meteorology | Astronomy | Space Science | Environmental Science | Health Science | Life Science | Physical Science | Earth Science | Planetary Science | Interdisciplinary Studies | Other

Join

Start Quiz



1/5



5 min



Hint

Q . Which is secondary pollutant?



Nitrogen Monoxide

 CO_2  SO_2 

CO



2/5



5 min



Hint

Q The pH of unpolluted rain water should be



5.6



7.0



4.8



3.2





3/5



5 min



Hint

Q Environmental pollution is spreading in almost every city of the world due to



Continuous rapid growth in population



Urbanization



Industrialization and transportation



All of these





4/5



5 min



Hint

Q Which oxide of nitrogen is mainly produced by bacterial action

 NO  NO_2  N_2O  N_2O_3 



5/5



5 min



Hint

Q : Coal contains Sulphur



1-3%



2-5%



1-9%



3-8%



Q · Which is secondary pollutant?



Nitrogen Monoxide

 CO_2  SO_2 

CO

Explanation

(i) Secondary Pollutants:

The primary pollutants in the atmosphere produce secondary pollutants through various reactions. These are follows

- | | | |
|-------------------------------------|---|-------|
| (i) Sulphuric acid
Carbonic acid | (ii) Nitrogen monoxide (N_2O) | (iii) |
| (iv) Hydrofluoric acid
Ozone | (v) Peroxyacetyl nitrate (PAN) | (vi) |
| (vii) Aldehydes
Peroxybenzoi | (viii) Ketones | (ix) |

All these compounds are toxic and their concentration in the atmosphere must be controlled



Correct



Unattempted



Incorrect



2/5

Q The pH of unpolluted rain water should be



5.6



7.0



4.8



3.2

Explanation

pH of acid rain:

The pH of unpolluted rain water should be 5.6. The rain water having pH less than 5 is considered truly acidic.

Q Environmental pollution is spreading in almost every city of the world due to



Continuous rapid growth in population



Urbanization



Industrialization and transportation



All of these

Explanation

Reasons for environmental Pollution:

Following are the factors which are responsible for environmental pollution

- (i) Rapid growth of population
- (ii) Urbanization
- (iii) Industrialization
- (iv) Transportation



Correct



Unattempted



Incorrect



4/5

Q Which oxide of nitrogen is mainly produced by bacterial action



NO



NO₂



N₂O



N₂O₃

Explanation

Natural:

Bacterial action produces NO_x mainly NO.



Correct



Unattempted



Incorrect



5/5

Q · Coal contains Sulphur



1-3%



2 - 5%



1 - 9%



3 - 8%

Explanation

Human Activities:

(i) Combustion of coal which contains 1-9% sulphur

(ii) Burning of crude oil

Burning of fossil fuel in power plants and petroleum industry



QUIZZES

Practice Test 72



5 Questions



5 min

Topics

one, Role of CFCs in destroying
pollution -I, Water pollution -II

Start Quiz



1/5



5 min



Hint

Q A single chloride free radical can destroy how many ozone molecules



100



100000



10000



10



2/5



5 min



Hint

Q The main pollutant of leather tanneries in the waste water is due to the salts of



Lead



Chromium (VI)



Copper



Chromium (II)





3/5



5 min



Hint

Q The normal amount of overhead ozone is about



150 DU



250 DU



350 DU



450 DU





4/5



5 min



Hint

Q . Detergent greatly affect



Aquatic life



Modern life



Terrestrial life



Plant's life





5/5



5 min



Hint

Q The main reactants of photochemical smog are



SO_2 and NO



SO_2 and unburnt hydrocarbons



NO and unburnt hydrocarbons



SO_3 and NO_2





Correct



Unattempted



Incorrect



1/5

Q A single chloride free radical can destroy how many ozone molecules



100



100000



10000



10

Explanation

A single chloride free radical can destroy upto 100,000 ozone molecules.



Correct



Unattempted



Incorrect



2/5

Q The main pollutant of leather tanneries in the waste water is due to the salts of



Lead



Chromium (VI)



Copper



Chromium (III)



Correct



Unattempted



Incorrect



3/5

Q The normal amount of overhead ozone is about



150 DU



250 DU



350 DU



450 DU

Explanation

Units of ozone measurement:

The amount of ozone in the atmosphere is expressed in Dobson units (DU) The normal amount of overhead ozone is about 350 DU



Correct



Unattempted



Incorrect



4/5

Q - Detergent greatly affect.



Aquatic life



Modern life



Terrestrial life



P ants life

Explanation

Detergents are excessively used in industries and household as cleaning agents. The amount of detergents being released in waste water is increasing day by day. This waste water when discharged in rivers or sea greatly affects the aquatic life.



Correct



Unattempted



Incorrect



5/5

Q The main reactants of photochemical smog are

 SO_2 and NO SO_2 and unburnt hydrocarbons

NO and unburnt hydrocarbons

 SO_3 and NO_2

Explanation

Oxidizing smog is formed in the presence of water droplets and chemical reactions of pollutants in the air. The main reactants of photochemical smog are nitric oxide, NO and unburnt hydrocarbons. NO is oxidized to NO_2 within minutes to hours depending upon the concentration of pollutant gas.

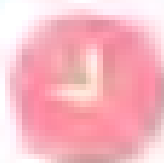


QUIZZES

Practice Test 73



5 Questions



5 min

Topics

DO BOD and COD

Start Quiz



1/5



5 min



Hint

Q Chemical oxygen demand of water (COD) is measured by reacting water with

Permanganate Ion (MnO_4^-)Chromate Ion (CrO_4^{2-})Dichromate Ion ($\text{Cr}_2\text{O}_7^{2-}$)Sulphate Ion (SO_4^{2-})



2/5



5 min



Hint

Q Water is considered as polluted when amount of dissolved oxygen is less than



2ppm



6ppm



4ppm



8ppm





3/5



5 min



Hint

Q Amount of dissolved oxygen in water ranges from



3-7ppm



4-8 ppm



5-9 ppm



2-6ppm





4/5



5 min



Hint

Q Oxygen demand of water can be determined directly by treating it with



Manganate ion



Dichromate ion



Chlorate ion



Both 'a' and 'b'





5/5



5 min



Hint

Q Higher value of which indicate more pollution



COD



BOD



DO



Both 'a' and 'b'





Correct



Incorrect



Incorrect



1/5

Q Chemical oxygen demand of water (COD) is measured by reacting water with

A Permanganate ion (MnO_4^{-1})B Chromate ion (CrO_4^{2-})C Dichromate ion ($\text{Cr}_2\text{O}_7^{2-}$)D Sulphate ion (SO_4^{2-})

Explanation

Measurement of COD

The oxygen demand of water can be determined directly by treating it with dichromate ions²⁻ which is a powerful oxidizing agent. The organic matter in water is oxidized, while the remaining dichromate is determined by titration



Correct



Wrong Answer



Incorrect



2/5

Q Water is considered as polluted when amount of dissolved oxygen is less than



2ppm



6ppm



4ppm



8ppm

Explanation

DISSOLVED OXYGEN (DO)

The most important oxidizing agent in water is dissolved molecular oxygen (O_2). Its concentration varies from 4-8 ppm. The organic matter which is present in polluted water is oxidized by this oxygen. The dissolved oxygen value less than 4 ppm shows that water is polluted.



Correct



Unattempted



Incorrect



3/5

Q Amount of dissolved oxygen in water ranges from



3-7ppm



4-8 ppm



5-9 ppm



2-6ppm

Explanation

The most important oxidizing agent in water is dissolved molecular oxygen (O_2). Its concentration varies from 4-8 ppm.



Correct



Unattempted



Incorrect



4/5

Q Oxygen demand of water can be determined directly by treating it with



Manganate ion



Dichromate ion




Chlorate ion



Both 'a' and 'b'

Explanation

The oxygen demand of water can be determined directly by treating it with dichromate ions  which is a powerful oxidizing agent.



Correct



Unattempted



Incorrect



5/5

Q Higher value of which indicate more pollution



COD



BOD



DO



Both 'a' and 'b'

Explanation

The value of COD and BOD is a direct measure of chemically oxidizable matter in water

Higher values of COD will indicate more pollution



QUIZZES

Practice Test 74



5 Questions



5 min

Topics

disinfection by chlorine

Start Quiz



1/5



5 min



Hint

Q To avoid the formation of toxic compounds with chlorine which substance is used for disinfection of water

 KMnO_4  O_3 

Alums



Chloramines

2

3

4

5



2/5



5 min



Hint

Q In purification of potable water, the coagulant used is



Nickel sulphate



Copper sulphate



Alum



Barium sulphate





3/5



5 min



Hint

Q The quality of raw water is improved by



Reduction



Aeration



Dehydration



Incineration





4/5



5 min



Hint

Q How much, suspended particles can be removed by coagulation process



More than 60%



More than 90%



More than 80%



More than 70%





5/5



5 min



Hint

Q . In human, liver cancer is due to



Oxygen



Chloroform



Carbon dioxide



Methane





Correct



Unattempted



Incorrect



1/5

Q To avoid the formation of toxic compounds with chlorine which substance is used for disinfection of water



KMnO_4



O_3



Alums



Chloramines



Correct



Unattempted



Incorrect



2/5

Q In purification of potable water, the coagulant used is



Nickel sulphate



Copper sulphate



Alum



Barium sulphate



Correct



Unattempted



Incorrect



3/5

Q The quality of raw water is improved by



Reduction



Aeration



Dehydration



Incineration



Correct



Unattempted



Incorrect



4/5

Q How much, suspended particles can be removed by coagulation process



More than 60%



More than 90%



More than 80%



More than 70%



Correct



Unattempted



Incorrect



5/5

Q · In human, liver cancer is due to



Oxygen



Chloroform



Carbon dioxide



Methane



QUIZZES

Practice Test 75



5 Questions



5 min

Topics

1. General Knowledge | 2. Biology | 3. Chemistry | 4. Physics | 5. English | 6. Mathematics | 7. Computer Science | 8. History | 9. Geography | 10. Art | 11. Music | 12. Sports | 13. Health | 14. Environment | 15. Social Studies | 16. Economics | 17. Law | 18. Politics | 19. Science | 20. Technology

of which

Start Quiz



1/5



5 min



Hint

Q How many times the newspaper can be recycled?



3



5



4



2

2

3

4

5



2/5



5 min



Hint

Q The temperature rang in non-rotating chamber in the incineration of industrial and hazardous waste process is



900–1000°C



250–500°C



950–1300°C



500–900°C





3/5



5 min



Hint

Q Which are carcinogenic class of compounds



Dioxin



Lower alkanes



Fatty acids



Proteins





4/5



5 min



Hint

Q The residual ash after incineration of industrial waste is disposed of in a landfill, which is lined with



Portland cement



Clay and plast c



Methyl silicone



Stone-ware





5/5



5 min



Hint

Q Polythene terephthalate can be recycled by



Reprocessing



Depolymerization



Transformation



All of these





Correct



Unattempted



Incorrect



1/5

Q How many times the newspaper can be recycled?



3



5



4



2



Correct



Unattempted



Incorrect



2/5

Q The temperature rang in non-rotating chamber in the incineration of industrial and hazardous waste process is



900-1000°C



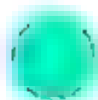
250-500°C



950-1300°C



500-900°C



Correct



Unattempted



Incorrect



3/5

Q Which are carcinogenic class of compounds



Dioxin



Lower alkanes



Fatty acids



Proteins



Correct



Unattempted



Incorrect



4/5

Q The residual ash after incineration of industrial waste is disposed of in a landfill, which is lined with



Portland cement



Clay and plast c



Methyl silicone



Stone-ware



Correct



Unattempted



Incorrect



5/5

Q Polythene terephthalate can be recycled by



Reprocessing



Depolymerization



Transformation



All of these



QUIZZES

Practice Test 76



5 Questions



5 min

Topics

INTRODUCTION, Historical background
Imprecise periodic law

Start Quiz



1/5



5 min



Hint

Q Atomic mass of Na is average of masses of Li and K. These three elements constitute



Alkaline earth metals



Triad



Octave



Homologous series



2/5



5 min



Hint

Q In series of Newland's octave, number of elements present are



3



7



8



Not fixed





3/5



5 min



Hint

Q Number of groups and periods in the Mendeleev's periodic table are



8 and 12



7 and 11



8 and 11



8 and 7





4/5



5 min



Hint

Q Mendeleev's periodic law was based on



Proton number



Nucleon number



Charge number



Oxidation number





5/5



5 min



Hint

Q The number of isotopes of gold is /are



1



2



3



4





Correct



Unattempted



Incorrect



1/5

Q Atomic mass of Na is average of masses of Li and K. These three elements constitute



Alkaline earth metals



Triad



Octave



Homologous series

Explanation

(1) Dobereiner's classification

In 1829, he arranged the elements having similar properties in triads. Triad is a group of three elements in which atomic mass of middle element is the average of the atomic masses of first and third element. This principle is called **Law of Triads**.



Incorrect



2/5

Q : In series of Newland's octave, number of elements present are



3



7



8



Not fixed

Explanation

(1) Newland's Classification;

In 1864, he classified 62 elements in the increasing order of their atomic masses. Some properties of every eighth element is similar to that of first one. This is called **Law of octaves**.

Li	Be	B	C	N	O	F
Na	Mg	Al	Si	P	S	Cl



Incorrect



3/5

Q : Number of groups and periods in the Mendeleev's periodic table are



8 and 12



7 and 11



8 and 11



8 and 7

Explanation

Groups:

The vertical columns were called as groups. They were eight in number. He classified the elements of similar chemical properties in one group

Periods;

The horizontal rows were called as periods. They were twelve in number



Correct



Unattempted



Incorrect



4/5

Q Mendeleev's periodic law was based on



Proton number



Nucleon number



Charge number



Oxidation number

Explanation

Periodic law:

The properties of elements are the periodic function (repeated after regular interval of time) of their atomic masses.



Correct



Unattempted



Incorrect



5/5

Q The number of isotopes of gold is /are



1



2



3



4

Explanation

Gold is mono isotopic element which contain only one isotope



QUIZZES

Practice Test 77



5 Questions



5 min

Topics

periods some more families in periodic
table Metals non-metals and metalloids

Start Quiz



1/5



5 min



Hint

Q Most of the elements in the periodic table are



Metals



Non-metals



Transition metals



inner transition metals



2/5



5 min



Hint

Q The element with $Z = 24$ is placed in the period



5



2



4



3





3/5



5 min



Hint

Q Which of the following group of elements is called coinage metals?



Cu, Ag, Au



Zn, Cd, Hg



Sc, Y, La



Ca, Sr, Ba





4/5



5 min



Hint

Q The element with $Z = 30$ is expected to be present in group.



II-B



I-B



II A



I-A





5/5



5 min



Hint

Q . Which is non-metal



Sb



Cu



Ag



Br





Correct



Unattempted



Incorrect



1/5

Q Most of the elements in the periodic table are



Metals



Non-metals



Transition metals



Inner transition metals

Explanation

There is 91 metals in periodic table and 17 non metals and 6 metalloids



Correct



Unattempted



Incorrect



2/5

Q The element with $Z = 24$ is placed in the period



5



2



4



3

Explanation

The element with atomic number 24 is copper and which belong to third period



Correct



Unattempted



Incorrect



3/5

Q Which of the following group of elements is called coinage metals?



Cu, Ag, Au



Zn, Cd, Hg



Sc, Y, La



Ca, Sr, Ba

Explanation

The 1-B group is called coinage metals which consist silver, copper, and gold elements



Correct



Unattempted



Incorrect



4/5

Q The element with $Z = 30$ is expected to be present in group.



II-B



I-B



II A



I-A

Explanation

The element having atomic number 30 is zinc which belongs to II-B group



Correct



Unattempted



Incorrect



5/5

Q · Which is non-metal



Sb



Cu



Ag



Br

Explanation

Ag and Cu are metals, Sb is metalloid and Br is a non metal



QUIZZES

Practice Test 78



5 Questions



5 min

Topics

Electron affinity

Start Quiz



1/5



5 min



Hint

Q . Which is not the periodic property



Ionization energy



Density



Atomic radius



Nucleon number



2/5

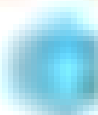


5 min



Hint

Q Correct increasing order of following species is H , H^+ , H^-

 $H < H^+ < H^-$  $H^+ < H^- < H$  $H^+ < H < H^-$  $H > H > H^+$ 



3/5



5 min



Hint

Q Ionization energy of nitrogen is higher than that of oxygen because of



Greater penetration effect



The half-filled p-orbitals of nitrogen possess extra stability



The size of nitrogen atom being smaller



Greater attraction of electrons by the nucleus





4/5



5 min



Hint

Q When an atom of high electronegative element becomes an ion, then which of the following occurs



its ionic radius becomes smaller



its ionic radius becomes larger



It loses electrons



It acts as reducing agent





5/5



5 min



Hint

Q Which of the following group show abnormal behaviour of electron affinity?



II-A



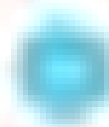
V-A



VIII-A



All of these





Correct



Unattempted



Incorrect



1/5

Q Which is not the periodic property



Ionization energy



Density



Atomic radius



Nucleon number

Explanation

The periodic table is arranged according to periodic properties in terms of **ionization energy**, **electronegativity**, **atomic radius**, **electron affinity**, and metallic character. The periodic table arranges the elements by periodic properties, which are recurring trends in physical and chemical characteristics and density is not a periodic property.



Correct



Unattempted



Incorrect



2/5

Q Correct increasing order of following species is H, H^+, H^-



$H < H^+ < H^-$



$H^+ < H^- < H$



$H^+ < H < H^-$



$H > H > H^+$

Explanation

Cation is always smaller than neutral atoms and anion is always larger than neutral atoms



Correct



Unattempted



Incorrect



3/5

Q Ionization energy of nitrogen is higher than that of oxygen because of



Greater penetration effect



The half filled p-orbitals of nitrogen possess extra stability



The size of nitrogen atom being smaller



Greater attraction of electrons by the nucleus

Explanation

Any element having half filled P subshell will be most stable as compared to other elements. So, ionization energy of nitrogen is higher than that of oxygen because of the half-filled p-orbitals of nitrogen possess extra stability.



Correct



Unattempted



Incorrect



4/5

Q When an atom of high electronegative element becomes an ion, then which of the following occurs



its ionic radius becomes smaller



its ionic radius becomes larger



it loses electrons



it acts as reducing agent

Explanation

By addition of electron in neutral atom the force of repulsion between electron is increases and force of attraction of nucleus on electron will be decreases that's why size of anion will be larger than neutral atom



Correct



Unattempted



Incorrect



5/5

Q Which of the following group show abnormal behaviour of electron affinity?



II-A



V-A



VIII A



All of these

Explanation

IIA, VA, and VIIA and normal behaviour of electron affinity

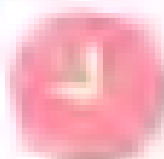


QUIZZES

Practice Test 79



5 Questions



5 min

Topics

periods, Hydration ene

Start Quiz



1/5



5 min



Hint

Q Max mum hydration energy is possessed by

 Na^+  Mg^{+2}  Al^{+3}  K^+



2/5



5 min



Hint

Q Which of the following ion has maximum hydration energy?

 Li^+  Na^+  K^+  Ca^{+2} 



3/5



5 min



Hint

Q Which elements has lowest melting point



Beryllium



Magnesium



Silicon



Barium





4/5



5 min



Hint

Q Across a period from left to right in the periodic table, the melting and boiling point



Decreases



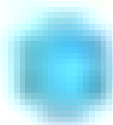
Increases



Remains constant



First increases upto the middle of period and then decreases





5/5



5 min



Hint

Q . Mark the correct statement:



Melting points of halogens decrease down the group



Melting points of halogens increase down the group



Melting points of halogens remain the same throughout the group



Melting points of halogens first increase and then decrease down the group





Correct



Unattempted



Incorrect



1/5

Q Max mum hydration energy is possessed by



Na^+



Mg^{+2}



Al^{+3}



K^+

Explanation

Hydration energy is depends upon charge density A^{+3} have high charge density

Q Which of the following ion has maximum hydration energy?



Li^+



Na^+



K^+



Ca^{+2}

Explanation

Hydration energy depends upon charge density, Ca^{+2} have high charge density

Ion	DH_h kJ mole^{-1}
Li^+	-510
Na^+	-410
K^+	-336
Mg^{2+}	-1903
Ca^{2+}	-1591
Al^{3+}	-4613
F^-	-431
Cl^-	313
Br^-	284
I^-	-247



Correct



Unattempted



Incorrect



3/5

Q Which elements has lowest melting point



Beryllium



Magnesium



Silicon



Barium

Explanation

Magnesium have lowest melting point due to close hexagonal packing



Correct



Unattempted



Incorrect



4/5

Q Across a period from left to right in the periodic table, the melting and boiling point



Decreases



Increases



Remains constant



First increases upto the middle of period and then decreases

Explanation

Melting point of element increasing up to group IV-A and decreasing up to noble gases



Correct



Unattempted



Incorrect



5/5

Q · Mark the correct statement:



Melting points of halogens decrease down the group



Melting points of halogens increase down the group



Melting points of halogens remain the same throughout the group



Melting points of halogens first increase and then decrease down the group

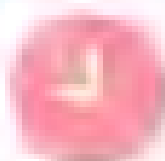


QUIZZES

Practice Test 80



5 Questions



5 min

Topics

Hydrides Oxides

[Start Quiz](#)



1/5



5 min



Hint

Q . Basic nature of oxides decreases



When we move from right to left in a period



When we move down the group



When we move upward the group



None of these



2/5

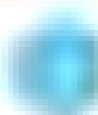


5 min



Hint

Q Which one of the following is most acidic?

 Cl_2O  ClO_2  Cl_2O_5  Cl_2O_7 



3/5



5 min



Hint

Q . Zinc oxide is an example of



Acidic oxide



Basic oxide



Amphoteric oxide



Neutral





4/5



5 min



Hint

Q The nature of hydrides of alkali metals is



Interstitial hydrides



Covalent hydrides



Metal hydrides



Ionic hydrides





5/5



5 min



Hint

Q Which of the following elements form acidic oxide only



Cd



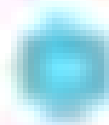
Al



Sn



Br





Correct



Unattempted



Incorrect



1/5

Q · Basic nature of oxides decreases



When we move from right to left in a period



When we move down the group



When we move upward the group



None of these

Explanation

The basic character of metal oxide increases on descending the group of periodic table



Correct



Unattempted



Incorrect



2/5

Q Which one of the following is most acidic?



Cl_2O



ClO_2



Cl_2O_5



Cl_2O_7

Explanation

The acidic character increases with increasing oxidation state



Correct



Unattempted



Incorrect



3/5

Q - Zinc oxide is an example of



Acidic oxide



Basic oxide



Amphoteric oxide



Neutral

Explanation

ZnO are amphoteric and behave as acid towards strong base and base towards strong acid



Correct



Unattempted



Incorrect



4/5

Q The nature of hydrides of alkali metals is:



interstitial hydrides



Covalent hydrides



Metal hydrides



ionic hydrides

Explanation

The element of alkali metal and the heavier member of alkaline earth metal is ionic hydrides because of high electronegativity difference.



Correct



Unattempted



Incorrect



5/5

Q Which of the following elements form acidic oxide only



Cd



Al



Sn



Br

Explanation

Bromine is non metal so its form is acidic oxide

USAMA SOHAIL

SAEED MDCAT

SAEED MDCAT TEAM

f SAEEDMDCAT



1/5



5 min



Hint

Q Which of the following compound is formed when sodium burns in air

 NaO_2  Na_2O_2  Na_2O  Na_2O_3



2/5



5 min



Hint

Q . Point out the ore of potassium?



Dolomite



Cryolite



Bauxite



Carnallite





3/5



5 min



Hint

Q Alkali metals are included in the category of



Noble gases



Transition elements



inner transition elements



Representative elements





4/5



5 min



Hint

Q Which of the following configuration correspond to alkaline earth metals?

 $[\text{Ar}] 3d^{10} 4s^2$  $[\text{Ne}] 3d^2 3p^2$  $[\text{Ar}] 4s^2$  $[\text{Ar}] 3d^{10} 4s^1$ 



5/5



5 min



Hint

Q

Natron has the chemical formula

 NaNO_3  KNO_3  $\text{Na}_2\text{B}_4\text{O}_7$  $\text{Na}_2\text{CO}_3, \text{H}_2\text{O}$ 



Correct



Unattempted



Incorrect



1/5

Q Which of the following compound is formed when sodium burns in air



NaO_2



Na_2O_2



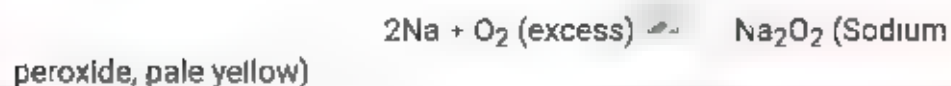
Na_2O



Na_2O_3

Explanation

- In the presence of excess of oxygen, Sodium forms **peroxide**, Na_2O_2 (Pale yellow)





Correct



Unattempted



Incorrect



2/5

Q · Point out the ore of potassium?



Dolomite



Cryolite



Bauxite



Carnallite

Explanation

Carnallite is the mineral of potassium and its formula is $\text{KCl} \cdot \text{MgCl}_2 \cdot 6\text{H}_2\text{O}$



Correct



Unattempted



Incorrect



3/5

Q Alkali metals are included in the category of



Noble gases



Transition elements



Inner transition elements



Representative elements

Explanation

In chemistry and atomic physics the main group is the group of elements whose lightest members are represented by helium, lithium, beryllium, boron, carbon, nitrogen, oxygen, and fluorine as arranged in the periodic table of the elements. The main group includes the elements in groups 1 and 2, and groups 13 to 18.



Correct



Unattempted



Incorrect



4/5

Q Which of the following configuration correspond to alkaline earth metals?



[Ar] $3d^{10} 4s^2$



[Ne] $3d^2 3p^2$



[Ar] $4s^2$



[Ar] $3d^{10} 4s^1$

Explanation

- Alkaline earth metals have two electrons in the 's' orbital of their valence shell (ns^2)
- All alkaline earth metals lose their two electrons to form dipositive ions (M^{+2}), because their ionization energies are low eg. $M \rightarrow M^{+2} + 2e$



Correct



Unattempted



Incorrect



5/5

Q

Natron has the chemical formula



NaNO_3



KNO_3



$\text{Na}_2\text{B}_4\text{O}_7$



$\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$

Explanation

Neutron is a mineral of sodium and its chemical formula is $\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$



QUIZZES

Practice Test 82



5 Questions



5 min

Topics

or of lithium

Start Quiz



1/5



5 min



Hint

Q Which one of the followings is formula of asbestos?

 MgCO_3  $\text{MgCO}_3 \text{ CaCO}_3$  $\text{CaMg}_3(\text{SiO}_3)_4$  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$



2/5



5 min



Hint

Q $\text{KCl} \cdot \text{MgCl}_2 \cdot 6\text{H}_2\text{O}$ is commonly called as:



Alunite



Carnallite



Dolomite



Magnesite





3/5



5 min



Hint

Q An example of oxide of beryllium ore is



Asbestos



Dolomite



Chrysoberyl



Gypsum





4/5



5 min



Hint

Q . Chemical formula of magnesite is

 $\text{CaMg}_3(\text{SiO}_3)_4$  MgCO_3  MgSO_4  MgCl_2 



5/5



5 min



Hint

Q The heat of solution of lithium chloride is



+ve



ve



Neg gible



Zero





Correct



Unattempted



Incorrect



1/5

Q Which one of the followings is formula of asbestos?



MgCO_3



$\text{MgCO}_3 \text{ CaCO}_3$



$\text{CaMg}_3(\text{SiO}_3)_4$



$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$

Explanation

Asbestos is a mineral of magnesium and its chemical formula is $\text{CaMg}_3(\text{SiO}_3)_4$



Correct



Unattempted



Incorrect



2/5

Q $\text{KCl MgCl}_2 \cdot 6\text{H}_2\text{O}$ is commonly called as



Alunite



Carnallite



Dolomite



Magnesite

Explanation

Carnallite is a mineral of magnesium and its chemical formula is $\text{KCl MgCl}_2 \cdot 6\text{H}_2\text{O}$



Correct



Unattempted



Incorrect



3/5

Q An example of oxide of beryllium ore is



Asbestos



Dolomite



Chrysoberyl



Gypsum

Explanation

Chrysoberyl is a oxide of Beryllium ore and its chemical formula is Al_2BeO_4



Correct



Unattempted



Incorrect



4/5

Q Chemical formula of magnesite is



$\text{CaMg}_3(\text{SiO}_3)_4$



MgCO_3



MgSO_4



MgCl_2

Explanation

Chemical formula of magnesite is MgCO_3



Correct



Unattempted



Incorrect



5/5

Q The heat of solution of lithium chloride is.



+ve



-ve



Negative



Zero

Explanation

Lithium Chloride has an exothermic heat of solution whereas other alkali metal chlorides have an endothermic heat of solution

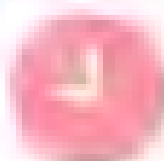


QUIZZES

Practice Test 83



5 Questions



5 min

Topics

Start Quiz



1/5



5 min



Hint

Q The outermost electronic configuration of group V A elements is

 $ns^1 np^3$  $ns^2 np^1$  $ns^2 np^2$  $ns^2 np^3$



2/5



5 min



Hint

Q Among group V A elements, the most electronegative element is



Sb



N



P



As





3/5



5 min



Hint

Q Out of all the elements of group V-A, the highest ionization energy is possessed by



N



P



Sb



B





4/5



5 min



Hint

Q Out of all the elements of group V-A, the highest ionization energy is possessed by



N



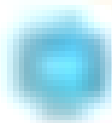
P



Sb



B





5/5



5 min



Hint

Q Out of all the elements of group VA the highest ionization energy is possessed by



N



P



Sb



B





Correct



Unattempted



Incorrect



1/5

Q The outermost electronic configuration of group V-A elements is.



$ns^1 np^3$



$ns^2 np^1$



$ns^2 np^2$



$ns^2 np^3$



Correct



Unattempted



Incorrect



2/5

Q Among group V-A elements, the most electronegative element is



Sb



N



P



As



Correct



Unattempted



Incorrect



3/5

Q Out of all the elements of group V-A, the highest ionization energy is possessed by



N



P



Sb



B



Correct



Unattempted



Incorrect



4/5

Q Out of all the elements of group V-A, the highest ionization energy is possessed by



N



P



Sb



B



Correct



Unattempted



Incorrect



5/5

Q Out of all the elements of group VA the highest ionization energy is possessed by



N



P



Sb



B

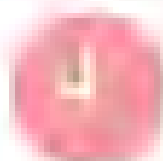


QUIZZES

Practice Test 84



12 Questions



5 min

Topics

NITROGEN AND ITS COMPOUNDS

Start Quiz



1/12



5 min



Hint

Q . Which one is the neutral oxide?

 N_2O  N_2O_4  N_2O_3  N_2O_5



2/12



5 min

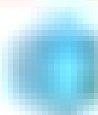


Hint

Q . The anhydride of nitric acid is:

 N_2O_4  N_2O_3  N_2O_5 

NO





3/12



5 min



Hint

Q Which of the following oxides of nitrogen is a brown coloured gas?

 N_2O_5  N_2O  N_2O_3  NO_2 



4/12



5 min



Hint

Q Nitrogen dioxide is released by heating

 NaNO_3  $\text{Pb}(\text{NO}_3)_2$  KNO_3  NaNO_2 



5/12



5 min



Hint

Q Which of the following metals gives H_2 gas with HNO_3 ?



Mercury



Copper



Magnesium



Zinc





6/12



5 min



Hint

Q Which of the following is not an oxide of Nitrogen

 N_2O  N_2O_3  N_3O_5  N_2O_5



7/12



5 min



Hint

Q In living matter, nitrogen is not found in the form of



Protein



Carbohydrates



Urea



Amino acids



8/12



5 min



Hint

Q N_2O is reduced to nitrogen on passing over



Red hot iron



Red hot copper



Phosphorus



Lead



9/12



5 min



Hint

Q . Phosphorous burns in NO_2 releasing

 NO  N_2O_3  O_2  N_2



10/12



5 min



Hint

Q Which of the following does not react with HNO_3 ?



Gold



Platinum



Titanium



All above



11/12



5 min



Hint

Q : Colour of liquid N_2O_4 is.



White



Pale yellow



Reddish brown



Violet



12/12



5 min



Hint

Q N_2O_4 on heating upto 620°C , decomposes to generate

 N_2 & O_2  NO_2 & O_2  NO & O_2  N_2O_3 & O_2



Correct



Unattempted



Incorrect



1/12

Q · Which one is the neutral oxide?



N_2O



N_2O_4



N_2O_3



N_2O_5



Correct



Unattempted



Incorrect



2/12

Q The anhydride of nitric acid is



N_2O_4



N_2O_3



N_2O_5



NO



Correct



Unattempted



Incorrect



3/12

Q Which of the following oxides of nitrogen is a brown coloured gas?



N_2O_5



N_2O



N_2O_3



NO_2



Correct



Unattempted



Incorrect



4/12

Q Nitrogen dioxide is released by heating



NaNO_3



$\text{Pb}(\text{NO}_3)_2$



KNO_3



NaNO_2



Correct



Unattempted



Incorrect



5/12

Q Which of the following metals gives H_2 gas with HNO_3 ?



Mercury



Copper



Magnesium



Zinc



Correct



Unattempted



Incorrect



6/12

Q Which of the following is not an oxide of Nitrogen



N_2O



N_2O_3



N_3O_5



N_2O_5



Correct



Unattempted



Incorrect



7/12

Q In living matter, nitrogen is not found in the form of



Protein



Carbohydrates



Urea



Amino acids



Correct



Unattempted



Incorrect



8/12

Q N_2O is reduced to nitrogen on passing over



Red hot iron



Red hot copper



Phosphorus



Lead



Correct



Unattempted



Incorrect



9/12

Q Phosphorous burns in NO_2 releasing



NO



N_2O_3



O_2



N_2



Correct



Unattempted



Incorrect



10/12

Q Which of the following does not react with HNO_3 ?



Gold



Platinum



Titanium



All above



Correct



Unattempted



Incorrect



11/12

Q - Colour of liquid N_2O_4 is



White



Pale yellow



Reddish brown



Violet



Correct



Unattempted



Incorrect



12/12

Q N_2O_4 on heating upto 620°C , decomposes to generate



N_2 & O_2



NO_2 & O_2



NO & O_2



N_2O_3 & O_2

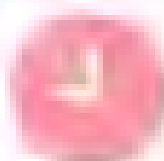


QUIZZES

Practice Test 85



5 Questions



5 min

Topics

1. General Knowledge 2. Biology 3. Chemistry 4. Physics 5. English

Occurrence

Start Quiz



1/5



5 min



Hint

Q When red phosphorus is heated with HNO_3 it forms

 H_3PO_4  HPO_3  H_2PO_3  HPO_2



2/5



5 min



Hint

Q +3 oxidation state of phosphorus is associated with



Phosphorus acid



Metaphosphoric acid



Hypophosphorus acid



Orthophosphoric acid





3/5



5 min



Hint

Q Indicate the formula of metaphosphoric acid

 $\text{H}_4\text{P}_2\text{O}_7$  H_2PO_3  H_3PO_4  HPO_3 



4/5



5 min



Hint

Q Phosphorous exist n how many allotropic forms.



6



3



4



5





5/5



5 min



Hint

Q . Phosphorus helps the growth of



Root



Leave



Stem



Seed





Correct



Unattempted



Incorrect



1/5

Q When red phosphorus is heated with HNO_3 it forms

 H_3PO_4  HPO_3  H_2PO_3  HPO_2



Correct



Unattempted



Incorrect



2/5

Q +3 oxidation state of phosphorus is associated with



Phosphorus acid



Metaphosphoric acid



Hypophosphorus acid



Orthophosphoric acid



Correct



Unattempted



Incorrect



3/5

Q Indicate the formula of metaphosphoric acid



$\text{H}_4\text{P}_2\text{O}_7$



H_2PO_3



H_3PO_4



HPO_3



Correct



Unattempted



Incorrect



4/5

Q Phosphorous exist n how many allotropic forms



6



3



4



5



Correct



Unattempted



Incorrect



5/5

Q · Phosphorus helps the growth of



Root



Leave



Stem



Seed



QUIZZES

Practice Test 86



5 Questions



5 min

Topics

and physical pro of group VIA

Start Quiz



1/5



5 min



Hint

Q The compound in which sulphur exhibit +2 oxidation state



Metallic sulphates



Metallic sulphites



metallic sulphides



Metallic thiosulphates

2

3

4

5



2/5



5 min



Hint

Q . Physical state of sulphur is



Gas



Liquid



Solid



None of these





3/5



5 min



Hint

Q Out of all the elements of group VIA, the highest melting and boiling points is shown by the element



Te



Se



S



Pb





4/5



5 min



Hint

Q Which of the following species has the maximum number of unpaired electrons?

 O_2  O_2^+  O_2^-  O_2^{2-} 



5/5



5 min



Hint

Q Which of the following species has the maximum number of unpaired electrons?

 O_2  O_2^+  O_2^-  O_2^{2-} 



Correct



Unattempted



Incorrect



1/5

Q The compound in which sulphur exhibit +2 oxidation state



Metallic sulphates



Metallic sulphites



metallic sulphides



Metallic thiosulphates



Correct



Unattempted



Incorrect



2/5

Q · Physical state of sulphur is



Gas



Liquid



Solid



None of these



Correct



Unattempted



Incorrect



3/5

Q Out of all the elements of group VIA, the highest melting and boiling points is shown by the element



Te



Se



S



Pb



Correct



Unattempted



Incorrect



4/5

Q Which of the following specie has the maximum number of unpaired electrons?



O_2



O_2^+



O_2^-



O_2^{2-}



Correct



Unattempted



Incorrect



5/5

Q Which of the following specie has the maximum number of unpaired electrons?



O_2



O_2^+



O_2^-



O_2^{2-}



QUIZZES

Practice Test 87



5 Questions



5 min

Topics

(100%)

(100%)

Start Quiz



1/5



5 min



Hint

Q Which compound gives carbon with conc H_2SO_4



Starch



Ethyl alcohol



Oxalic acid



Formic acid



2/5



5 min



Hint

Q When sugar is treated with conc H_2SO_4 , the sugar becomes black due to:



Decolourization



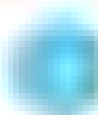
Dehydration



Hydrolysis



Hydration





3/5



5 min



Hint

Q SO_3 is not absorbed in water directly to form H_2SO_4 because



The reaction does not go the completion



The reaction is quite slow



The reaction is highly exothermic



SO_3 is insoluble in water





4/5



5 min



Hint

Q Which catalyst is used in contact process?

 Fe_2O_3  V_2O_5  SO_3  Ag_2O 



5/5



5 min



Hint

Q Which catalyst is used in contact process for manufacture of H_2SO_4

 Fe_2O_3  V_2O_5  Al_2O_3  MnO_2 



Correct



Unattempted



Incorrect



1/5

Q Which compound gives carbon with conc H_2SO_4 .



Starch



Ethyl alcohol



Oxalic acid



Formic acid



Correct



Unattempted



Incorrect



2/5

Q When sugar is treated with conc. H_2SO_4 , the sugar becomes black due to



Decolourization



Dehydration



Hydrolysis



Hydration



Correct



Unattempted



Incorrect



3/5

Q SO_3 is not absorbed in water directly to form H_2SO_4 because



The reaction does not go the completion



The reaction is quite slow



The reaction is highly exothermic



SO_3 is insoluble in water



Correct



Unattempted



Incorrect



4/5

Q Which catalyst is used in contact process?



Fe_2O_3



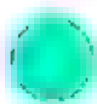
V_2O_5



SO_3



Ag_2O



Correct



Unattempted



Incorrect



5/5

Q Which catalyst is used in contact process for manufacture of H_2SO_4



Fe_2O_3



V_2O_5



Al_2O_3



MnO_2

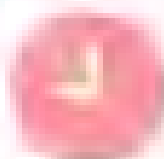


QUIZZES

Practice Test 88



5 Questions



5 min

Topics

PROPERTIES

Start Quiz



1/5



5 min



Hint

Q Which is the radioactive element of group V.I A.



Br



Cl



Ar



I



2/5



5 min



Hint

Q . The Ionization energy of chlorine is



1681 kJ/mol



1251 kJ/mol



1140 kJ/mol



1008 kJ/mol





3/5



5 min



Hint

Q The most stable isotope of astatine has half life



8.6 h



8.3 h



7.5 h



8.9 h





4/5



5 min



Hint

Q . Electronegativity of fluorine is



4.5



4.0



2.8



3.5





5/5



5 min



Hint

Q . Point out the correct statement



Halogens can mutually displace each other from the solution of their compounds with metals



Halogens are all capable of showing several oxidation states



Halogens are all diatomic and form divalent ions



Halogens are diatomic and form univalent ions





Correct



Unattempted



Incorrect



1/5

Q Which is the radioactive element of group VII A.



Br



Cl



Ar



I



Correct



Unattempted



Incorrect



2/5

Q The ionization energy of chlorine is



1681 kJ/mol



1251 kJ/mol



1140 kJ/mol



1008 kJ/mol



Correct



Unattempted



Incorrect



3/5

Q The most stable isotope of astatine has half life



8.6 h



8.3 h



7.5 h



8.9 h



Correct



Unattempted



Incorrect



4/5

Q · Electronegativity of fluorine is:



4.5



4.0



2.8



3.5



Correct



Unattempted



Incorrect



5/5

Q · Point out the correct statement.



Halogens can mutually displace each other from the solution of their compounds with metals



Halogens are all capable of showing several oxidation states



Halogens are all diatomic and form divalent ions



Halogens are diatomic and form univalent ions



QUIZZES

Practice Test 89



3 Questions



5 min

Topics

OCCURRENCE OF HALOGENS

BEHAVIOR OF FLUORINE

Start Quiz



1/3



5 min



Hint

Q . Halite is the name of



KCl

 MgCl_2 

NaCl

 CaF_2



2/3



5 min

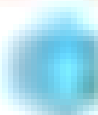


Hint

Q Which halogen directly combines with noble gases.

 F_2  Cl_2  Br_2 

2





3/3



5 min



Hint

Q CaF_2 , MgF_2 , and BaF_2 are insoluble in water due to



Low dissociation energy



High lattice energy

Smaller size of F_2 

None of these





Correct



Unattempted



Incorrect



1/3

Q · Halite is the name of



KCl



MgCl₂



NaCl



CaF₂



Correct



Unattempted



Incorrect



2/3

Q Which halogen directly combines with noble gases:



F_2



Cl_2



Br_2



I_2



Correct



Unattempted



Incorrect



3/3

Q CaF_2 , MgF_2 , and BaF_2 are insoluble in water due to



Low dissociation energy



High lattice energy



Smaller size of F_2



None of these

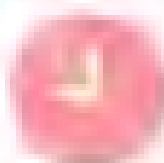


QUIZZES

Practice Test 90



5 Questions



5 min

Topics

OXIDIZING PROPERTIES

[Start Quiz](#)



1/5



5 min



Hint

Q In halogens, the order of decreasing power as an oxidizing agent is

 $F_2 > Cl_2 > Br_2 > I_2$  $F_2 < Cl_2 < Br_2 < I_2$  $I_2 > Cl_2 > Br_2 > F_2$  $F_2 > I_2 > Br_2 > Cl_2$



2/5



5 min



Hint

Q Which of the following factors do not affect the oxidizing power of halogen



Energy of dissociation



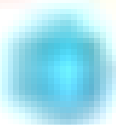
Size of atom



Electron affinity of atoms



Hydration energies of ions





3/5



5 min



Hint

Q Which halogen will react spontaneously with $\text{Au}_{(s)}$ to produce Au^{3+} ?

 Br_2  F_2  I_2  Cl_2 



4/5



5 min



Hint

Q Which of the following species would you not expect to undergo oxidation

 F  F^-  Br^-  Cl^- 



5/5



5 min



Hint

Q Which is the weakest oxidizing agent

 Br_2  Cl_2  F_2  I_2 



Correct



Unattempted



Incorrect



1/5

Q In halogens, the order of decreasing power as an oxidizing agent is



$F_2 > Cl_2 > Br_2 > I_2$



$F_2 < Cl_2 < Br_2 < I_2$



$I_2 > Cl_2 > Br_2 > F_2$



$F_2 > I_2 > Br_2 > Cl_2$



Correct



Unattempted



Incorrect



2/5

Q Which of the following factors do not affect the oxidizing power of halogen



Energy of dissociation



Size of atom



Electron affinity of atoms



Hydration energies of ions



Correct



Unattempted



Incorrect



3/5

Q Which halogen will react spontaneously with $\text{Au}_{(s)}$ to produce Au^{3+} ?



Br_2



F_2



I_2



Cl_2



Correct



Unattempted



Incorrect



4/5

Q Which of the following species would you not expect to undergo oxidation



F



I⁻



Br⁻



Cl⁻



Correct



Unattempted



Incorrect



5/5

Q Which is the weakest oxidizing agent



Br_2



Cl_2



F_2



I_2



QUIZZES

Practice Test 91



5 Questions



5 min

Topics

1. Chlorine Dioxide 2. Chlorine 3. Chlorine Dioxide 4. Chlorine Dioxide

acid Bleaching powder - preparation

Start Quiz



1/5



5 min



Hint

Q An element that has a high ionization energy and tends to be chemically inactive would most likely to be



An alkali metal



A transition element



A noble gas



A halogen

2

3

4

5



2/5



5 min



Hint

Q . The most strong oxyacid is

 HBrO  HIO  HClO 

Equally strong





3/5



5 min



Hint

Q Which of the following is the most Acidic Oxide?

 Cr_2O_3  SiO_2  SO_2  Cl_2O_7 



4/5



5 min



Hint

Q Bleaching powder may be produced by passing chlorine over



Calcium carbonate



Hydrated calcium sulphate



Anhydrous calcium sulphate



Calcium hydroxide





5/5



5 min



Hint

Q . Which is the strongest acid?

 HClO  HClO_2  HClO_3  HClO_4 



Correct



Unattempted



Incorrect



1/5

Q An element that has a high ionization energy and tends to be chemically inactive would most likely to be



An alkali metal



A transition element



A noble gas



A halogen



Correct



Unattempted



Incorrect



2/5

Q · The most strong oxyacid is.



HBrO



HIO



HClO



Equally strong



Correct



Unattempted



Incorrect



3/5

Q Which of the following is the most Acidic Oxide?



Cl_2O



SiO_2



SO_2



Cl_2O_7



Correct



Unattempted



Incorrect



4/5

Q Bleaching powder may be produced by passing chlorine over



Calcium carbonate



Hydrated calcium sulphate



Anhydrous calcium sulphate



Calcium hydroxide



Correct



Unattempted



Incorrect



5/5

Q · Which is the strongest acid?



HClO



HClO_2



HClO_3



HClO_4



QUIZZES

Practice Test 92



5 Questions



5 min

Topics

[Start Quiz](#)



1/5



5 min



Hint

Q . f block elements are a so called



Non-typical transition elements



Outer transition elements



inner transition elements



Normal transition elements



2/5



5 min



Hint

Q Which of the following is non-typical transition element atomic numbers are within parenthesis



Cd (48)



Mo (42)



Cr (24)



Fe (26)





3/5



5 min



Hint

Q Which one of following metal exist in liquid state at 0room temperature



Hg



Al



Cu



Fe





4/5



5 min



Hint

Q . The non typical transition element is.



Cr



Mn



Zn



Fe





5/5



5 min



Hint

Q Group V-B of transition element contains



Zn, Cd, Hg



Fe, Ru, Os



Cr, Mo, W



Mn, Tc, Re





Correct



Unattempted



Incorrect



1/5

Q · f-block elements are a so called



Non-typical transition elements



Outer transition elements



Inner transition elements



Normal transition elements



Correct



Unattempted



Incorrect



2/5

Q Which of the following is non-typical transition element atomic numbers are within parenthesis



Cd (48)



Mo (42)



Cr (24)



Fe (26)



Correct



Unattempted



Incorrect



3/5

Q Which one of following metal exist in liquid state at 0room temperature



Hg



Al



Cu



Fe



Correct



Unattempted



Incorrect



4/5

Q The non typical transition element is



Cr



Mn



Zn



Fe



Correct



Unattempted



Incorrect



5/5

Q Group V-B of transition element contains:



Zn, Cd, Hg



Fe, Ru Os



Cr, Mo, W



Mn, Te, Re



QUIZZES

Practice Test 93



5 Questions



5 min

Topics

states Colour of cc

Start Quiz



1/5



5 min



Hint

Q Those substances which are weakly repelled by a strong magnetic field are called



Paramagnetic substances



Diamagnetic substances



Ferromagnetic substances



None

2

3

4

5



2/5



5 min



Hint

Q The highest oxidation state of Mn is in

 K_2MnO_4  KMnO_4  Mn_2O_3  MnO_2 



3/5



5 min



Hint

Q The Strength of binding energy of transition elements depends upon



Number of electron pairs



Number of unpaired electrons



Number of neutrons



Number of protons





4/5



5 min



Hint

Q Which statement about transition elements is correct



They are usually colourless



Their ionization potential is high than s-block and low than p-block



They are non-paramagnetic



They form complexes





5/5



5 min



Hint

Q Which one of the following ions is colourless?

 Cr^{3+}  Zn^{2+}  Ni^{2+}  Co^{2+} 



Correct



Unattempted



Incorrect



1/5

Q Those substances which are weakly repelled by a strong magnetic field are called



Paramagnetic substances



Diamagnetic substances



Ferromagnetic substances



None



Correct



Unattempted



Incorrect



2/5

Q The highest oxidation state of Mn is in



K_2MnO_4



$KMnO_4$



Mn_2O_3



MnO_2



Correct



Unattempted



Incorrect



3/5

Q The Strength of binding energy of transition elements depends upon



Number of electron pairs



Number of unpaired electrons



Number of neutrons



Number of protons



Correct



Unattempted



Incorrect



4/5

Q Which statement about transition elements is correct



They are usually colourless



Their ionization potential is higher than s-block and lower than p-block



They are non-paramagnetic



They form complexes



Correct



Unattempted



Incorrect



5/5

Q Which one of the following ions is colourless?



Cr^{3+}



Zn^{2+}



Ni^{2+}



Co^{2+}



QUIZZES

Practice Test 94



5 Questions



5 min

Topics

Corrosion [Electrochemical theory of

Corrosion] Factors affecting corrosion

plating or coating [Plating with tin Galvanizing

Paints and protective coating

Start Quiz



1/5



5 min



Hint

Q Which is more effective for prevention from corrosion



Cathode coating



Anode coating



Both are effective



Tin coating



2/5



5 min



Hint

Q If Al and Cu are in contact with each other then



Al will corrode



Cu will corrode



Both will corrode



Both remain intact





3/5



5 min



Hint

Q Galvanizing means protecting iron from rust by using



Zn



Ni



Cr



Cd





4/5



5 min



Hint

Q When metal comes into contact with gases of atmosphere the surface becomes coated with



Oxides



Carbonates



Sulphates



All of these





5/5



5 min



Hint

Q When tin coating on iron surface is damaged a galvanic cell is established in which tin act as a



Anode



Salt bridge



Cathode



None





Correct



Unattempted



Incorrect



1/5

Q Which is more effective for prevention from corrosion



Cathode coating



Anode coating



Both are effective



Tin coating



Correct



Unattempted



Incorrect



2/5

Q : If Al and Cu are in contact with each other, then



Al will corrode



Cu will corrode



Both will corrode



Both remain intact



Correct



Unattempted



Incorrect



3/5

Q : Galvanizing means protecting iron from rust by using



Zn



Ni



Cr



Cd



Correct



Unattempted



Incorrect



4/5

Q : When metal comes into contact with gases of atmosphere the surface becomes coated with



Oxides



Carbonates



Sulphates



All of these



Correct



Unattempted



Incorrect



5/5

Q : When tin coating on iron surface is damaged a galvanic cell is established in which tin act as a



Anode



Salt bridge



Cathode



None